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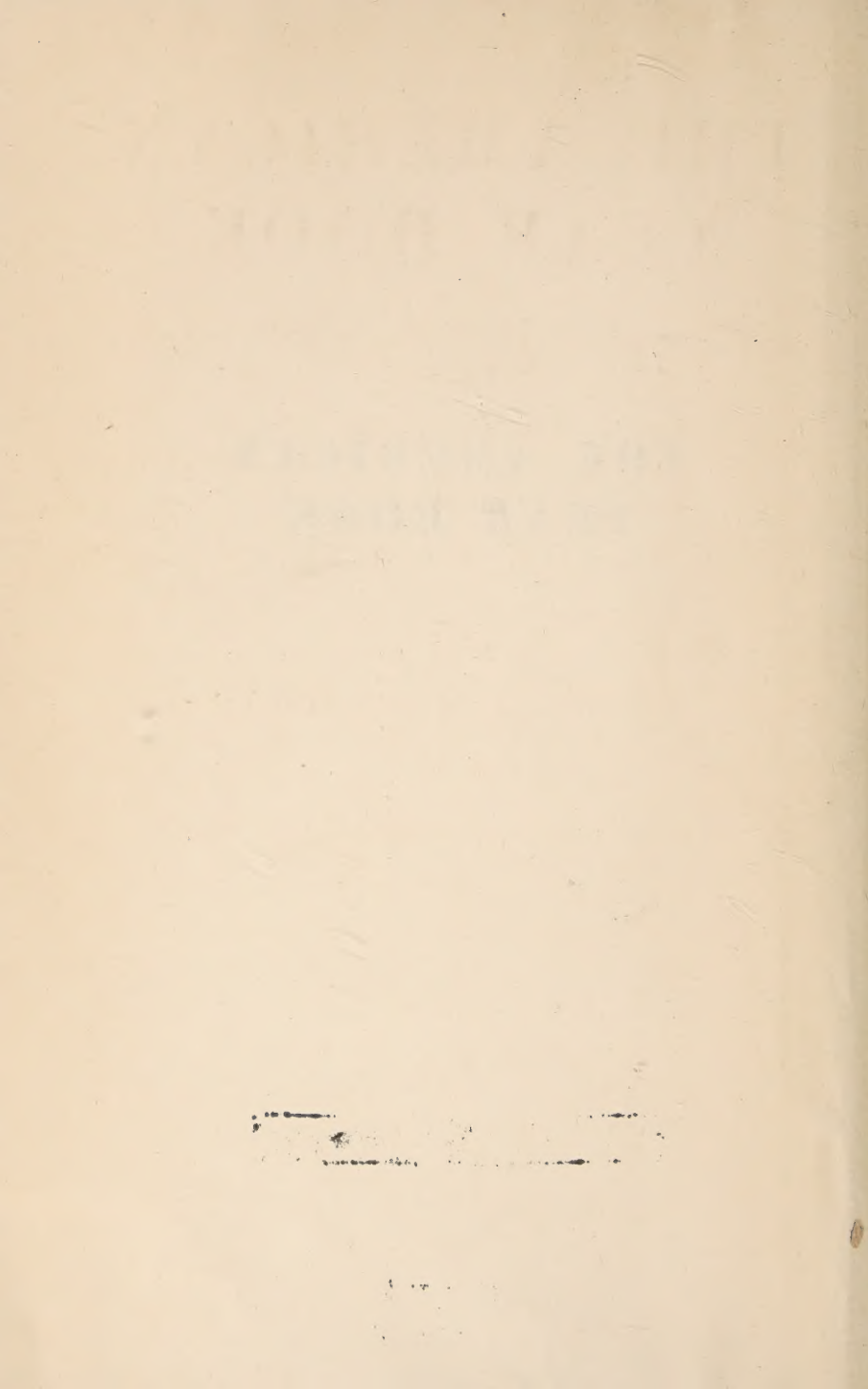
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**THE AMERICAN  
YEAR BOOK**





# THE AMERICAN YEAR BOOK

A Record of Events and Progress

YEAR 1942

EDITOR

WILLIAM M. SCHUYLER

GENERAL EDITOR

ALBERT BUSHNELL HART


EDITED WITH THE COÖPERATION OF  
A SUPERVISORY BOARD REPRESENT-  
ING NATIONAL LEARNED SOCIETIES

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## PREFACE

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In this, the twenty-eighth issue of *THE AMERICAN YEAR BOOK*, the record of events for the year 1942 is a war record in the fullest sense of the term. While the war required an enlargement of scope for the volume's content beyond the normal peacetime plan, it entailed at the same time a limitation in treatment of certain subjects which could not be unreservedly discussed for obvious reasons. The United States has become one of the United Nations for the duration of the conflict; as such, this country's interests and activities have been enormously extended over the face of the globe; its pattern of life has been changed in such fashion as to suggest that numerous aspects of the pattern will affix their stamp permanently after the war has ended. In that pattern, no doubt, some of the present highlights will be shaded or extinguished; it is equally probable that some of the present imponderables may leap into the forefront of public thought and concern.

Whatever way of life the issue of the war shall impose upon us and upon those associated with us in the current conflict, the background for it is now in the making. The facts, figures, and interpretative observations herewith presented under the authority of a selective and distinguished list of contributors are the materials of a vast historical structure in process of building. The reader, the publicist, the teacher, the student, and the historian may be assured that a deep sense of editorial responsibility has been conjoined with the earnest labors of the contributors to present a portrayal which, in the passage of time, might otherwise be lost or distorted. To supplement the narrative text, war chronologies have been supplied; to give an opportunity for additional research, lists of periodical publications and of societies and organizations cognate to the various fields of learning and enterprise have been appended to the topical divisions of the book.



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**THE AMERICAN  
YEAR BOOK**





# THE AMERICAN YEAR BOOK

## A RECORD OF EVENTS AND PROGRESS

### PART ONE

### HISTORICAL

#### DIVISION I

#### AMERICAN POLITICAL HISTORY

#### THE PRESIDENT AND HIS POLICIES

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#### FOREIGN POLICY OBJECTIVES

President Roosevelt's foreign policy in 1942 had as its central theme the winning of the war and the maintenance of peace following the war. "Our own objectives are clear," he declared in his annual message to Congress on Jan. 6: "The objective of smashing the militarism imposed by war lords upon their enslaved peoples; the objective of liberating the subjugated nations; the objective of establishing and securing freedom of speech, freedom of religion, freedom from want, and freedom from fear everywhere in the world. We shall not stop short of these objectives; nor shall we be satisfied merely to gain them and call it a day. . . . This time we are determined not only to win the war, but also to maintain the security of the peace which will follow."

Toward this goal the President said he had sent a letter of directive to the appropriate departments and

agencies of our Government, ordering that immediate steps be taken: (1) To produce 60,000 planes, of which 45,000 would be combat planes, in 1942; and to increase the number to 125,000, in 1943, including 100,000 combat planes. (2) To produce 45,000 tanks in 1942, and 75,000 in 1943. (3) To increase production of anti-aircraft guns to 20,000 in 1942 and 35,000 in 1943. (4) To build 8,000,000 deadweight tons of merchant ships in 1942 and 10,000,000 in 1943, as against a 1941 production of 1,100,000 tons. The President estimated that the war program for the 1942-43 fiscal year would cost \$56,000,000,000, which would be more than half of the estimated annual income. He said he would order the armed forces to carry the attack against the enemy—"to hit him and hit him again wherever and whenever we can reach him." This would involve taking positions in the British Isles, at many points in the Far East, on all

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the oceans, and on bases within and without the New World to protect the Western Hemisphere. "Only total victory," the President concluded, "can reward the champions of tolerance, and decency, and freedom, and faith."

On Jan. 27, 1942 President Roosevelt told his press conference that six, eight, or ten American expeditionary forces were outside the United States in various parts of the world. He said that great progress had been made in unification of American army and navy commands. In a joint statement the President and Prime Minister Churchill announced the creation of a pool of American and British munitions, shipping, and raw materials. Three joint boards—Combined Raw Materials Board, Munitions Assignments Board, and Combined Shipping Adjustment Board—were set up to merge combined war resources of the two nations to further coordination of the United Nations' war effort. In order that the committees might be fully apprised of the policy of their respective governments, the President and the Prime Minister each appointed a civilian chairman of their respective committees. President Roosevelt's appointees were Harry Hopkins, Munitions Board; Rear Admiral Emory S. Land, Shipping Board; and William L. Batt, Raw Materials Board.

### WAR SHIPPING ADMINISTRATION

President Roosevelt, by Executive Order of Feb. 7, 1942 established a War Shipping Administration, with Rear Admiral Land as shipping administrator, to control operation, purchase, charges, requisition, and use of all United States shipping. The President said the purpose of the new agency was "to assure the most effective utilization of the shipping of the United States for the successful prosecution of the war."

On Feb. 21 the White House announced the establishment of joint boards in Washington and London to insure efficient use of American and British shipping. They were desig-

nated as "Combined Shipping Adjustment Boards." Admiral Land was named as the representative of the United States on the Washington Board, with Sir Arthur Salter representing the British Minister of War Transport. In the London organization W. Averell Harriman was designated to represent this country, and Lord Leathers, Minister of War Transport, to represent Great Britain.

### BRITISH-AMERICAN CARIBBEAN COMMISSION

On March 9 the White House reported that the American and British Governments had set up a Caribbean Commission, composed of six members, to encourage and strengthen social and economic cooperation among the possessions of the two nations in that area. President Roosevelt appointed Charles W. Taussig, president of the American Molasses Company, as American co-chairman. The primary concern of the Commission was described as "matters pertaining to labor, agriculture, housing, health, education, social welfare, finance, economics, and related subjects in the territories under the British and United States flags within this territory." At the same time the President named an American Caribbean Advisory Committee to study the economic and social problems of the inhabitants of the islands. He characterized as untrue reports that the American Government was considering requesting Great Britain for indefinite prolongation of the 99-year lease granted by Britain to this country for bases in certain Western Hemisphere British colonies.

### PACIFIC WAR COUNCIL

On March 30, President Roosevelt announced the creation of a Pacific War Council to sit in Washington, representing Australia, New Zealand, The Netherlands, Canada, China, Great Britain, and the United States. He stated that the Council would be in intimate contact with a similar body in London. He regarded it as imperative that all of the United Nations actively engaged in the Pacific

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conflict should consider together matters of policy relating to their joint war effort.

### RELATIONS WITH SOVIET RUSSIA

President Roosevelt told his press conference on Feb. 17, 1942 that plans were being made for a new loan to the Soviet Union. Commitments for making American war materials available to Russia, arranged by the first American mission to Moscow, he said, were maintained up to schedule until Dec. 7, the day the Japanese attacked us at Pearl Harbor. Delivery of supplies for Russia slowed down in December and January, but were expected to be brought back to schedule by March 1. The President said a new lend-lease authorization would be necessary to maintain a steady flow of supplies to the Soviet armies.

On March 27 the President instructed the Maritime Commission to give first priority to shipping and material to Russia, and issued similar instructions to the War and Navy Departments, the War Power Board, and Lend-Lease Administrator Stettinius. He said American war aid to Russia was far behind schedule.

The White House, in an announcement approved by President Roosevelt and Russian Foreign Commissar Molotov, reported that they had reached full understanding with regard to the urgent tasks of creating a second European front at discussions held in Washington from May 29 to June 4. In addition, the President and Mr. Molotov discussed measures for speeding up deliveries of United States war materials to the Soviet Union, and the fundamental problems of post-war cooperation between the United States and Russia for safeguarding peace and security to freedom-loving peoples.

### REVIEWS OF WAR SITUATION

President Roosevelt, in a radio address to the nation on Feb. 23, 1942, warned that we must "face the hard fact that our job now is to fight at distances which extend all the way around the globe because that is

where our enemies are." The object of the Nazis and the Japanese, he said, was to separate the United States, Britain, China, and Russia and to isolate them one from another in order that each might be surrounded and cut off from sources of supplies and reinforcements. The President stated that four main lines of communication were being traveled by our ships: North Atlantic, South Atlantic, Indian Ocean and South Pacific. He reported that thousands of American troops were engaged in the southwest Pacific in operations not only in the air but on the ground as well. The obvious initial advantage geographically had enabled the Japanese to encircle the Philippines and had prevented us from sending substantial reinforcements of men and materials to the defenders of the Philippines.

With reference to the consequences of Pearl Harbor, President Roosevelt said that, though serious, they had been exaggerated, only three combatant ships based on Pearl Harbor having been permanently put out of action. He claimed that we had destroyed considerably more Japanese planes than they had destroyed of ours. Germany, Italy, and Japan were very close to their maximum output of planes, guns, tanks and ships, the President said, but the United Nations were not, especially the United States. He expressed three high purposes for every American: (1) not to stop work for a single day until the war is won; (2) not to demand special gains or special privileges or advantages for any one group or occupation; (3) to give up conveniences and modify the routine of our lives cheerfully, "remembering that the common enemy seeks to destroy every home and every freedom in every part of the land."

In a radio address on April 28, President Roosevelt reported that "American warships are now in combat in the North and South Atlantic, in the Arctic, in the Mediterranean, and in the North and South Pacific. American troops have taken stations in South America, Greenland, Ice-

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land, the British Isles, the Near East, the Middle East, the Far East, the Continent of Australia, and many islands of the Pacific." Reviewing the situation on the war fronts, the President paid high tribute to the Russian army. He said that the United Nations would take measures, if necessary, to prevent the use of French territory in any part of the world for military purposes by the Axis powers. Admitting Japanese gains in the Philippines and elsewhere, the President asserted that the Japanese were paying a heavy toll in warships, transports, planes, and men. He referred to the huge cost of the war and repeated that his seven-point program of national wartime economic policy must be enforced in total because "the only effective course of action is a simultaneous attack on all of the factors which increase the cost of living . . . prices, profits, wages, taxes, and debts."

### **DECLARATION OF WAR AGAINST BALKAN STATES**

In a message dated June 2, the President asked Congress for declarations of war against Bulgaria, Hungary, and Rumania. He said the three countries earlier had declared war on the United States as instruments of Hitler, not upon their own initiative or in response to the wishes of their own peoples, but they were now engaged in military operations against the United Nations and were planning an extension of these operations.

### **AID TO CHINA**

The White House reported on June 2 that President Roosevelt had concluded negotiations with Chinese Foreign Minister Soong for an agreement placing United States lend-lease aid to China on substantially the same basis as lend-lease aid to Britain. The agreement did not attempt to define precise terms of settlement but laid down broad principles designed to prevent any settlement which might upset economic relations between the two countries and included provisions for reducing

international tariff barriers and for carrying out the eight points of the Atlantic Charter.

### **ANGLO-AMERICAN PRODUCTION AND FOOD BOARDS**

On June 9 President Roosevelt announced the creation by the United States and Great Britain of a Combined Production and Resources Board and a Combined Food Board. He said the Combined Production and Resources Board should: (1) combine the production programs of the two countries into a single integrated program, adjusted to the strategic requirements of war and to all relevant production factors; (2) in close collaboration with the Combined Chiefs of Staff, assure the continuous adjustment of the combined production program to meet the changing military requirements; interchange with the Combined Chiefs of Staff and the Combined Munitions Assignments Board information concerning military requirements and facts and possibilities of production.

The Combined Food Board would consider and formulate plans on any question common to the United States and the United Kingdom relating to the supply, production, transportation, disposal, allocation or distribution, in any part of the world, of foods and agricultural materials from which foods are derived, and make recommendations to both governments. It was expected to collaborate with other United Nations toward the best utilization of food resources.

### **ROOSEVELT-CHURCHILL CONFERENCES**

On June 23 the White House reported that ten Anglo-American shipping experts had met with President Roosevelt and Prime Minister Churchill in Washington for a shipbuilding and ship use conference, one of the most important conferences the two men had held. The President and Mr. Churchill, in a joint statement, said the object of their conferences was "the earliest maximum concentration of Allied war power



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upon the enemy, and reviewing or, where necessary, further concerting all the measures which have for some time past been on foot to develop and sustain the effort of the United Nations." The two men also conducted important conferences with Chinese Foreign Minister Soong and with Soviet Ambassador Litvinov in their formulation of grand strategy to win the war.

### RELATIONS WITH FINLAND

On July 17, the State Department said the United States had closed its consular offices in Finland and had requested Finland to close its consular offices in the United States not later than Aug. 1. The cancellation of consular representation did not represent a break in diplomatic relations, the announcement said, but action was taken to put an end to the untenable situation which developed when Finland refused to abide by terms of the consular treaty between the two countries.

### WILLKIE AS THE PRESIDENT'S REPRESENTATIVE

President Roosevelt told his press conference on Aug. 21 that Wendell L. Willkie would travel as his special representative in Europe and the Near East to tell foreign leaders the truth about the United States and its war effort. He said Mr. Willkie would carry messages from him to a number of leaders, including Soviet Premier Stalin. The President, in a formal statement, said the perpetrators of barbaric acts in occupied countries will have to stand trial for their crimes. He acted after Secretary of State Hull forwarded to him a report of the latest Axis atrocities against civilian populations of the occupied countries.

### REPORTS ON LEND-LEASE

In his report of Sept. 11 on lend-lease operations, the President indicated the magnitude of this program by stating that the list of countries receiving lend-lease aid included the

British Commonwealth of Nations and 35 other countries. On Sept. 3, the informal pooling of resources was made formal in signed agreements with the United Kingdom, Australia, New Zealand, and Fighting France. The program of reciprocal lend-lease, the President said, had become a very material and important aspect of our supply problem. Reciprocal aid represented the most economical use of the war resources of the United Nations. In the words of the President: "The passage of the Lend-Lease Act meant that the dollar sign would not stand in the way of our aid to other United Nations."

President Roosevelt told Congress on Dec. 11 that, by the end of December, American forces overseas would total more than 1,000,000 men. In a letter submitting the quarterly report on lend-lease operations, he described the Allied landing of forces in North Africa as "the greatest single overseas expeditionary force in history." The report showed that lend-lease assistance to the Allies in the three months ended Dec. 11 amounted to \$2,367,000,000. During 1942 the United States and Great Britain shipped to Soviet Russia over the northern route alone more than 3,000 planes, more than 4,000 tanks, more than 30,000 trucks, jeeps, and other vehicles, and hundreds of thousands of tons of food, industrial raw materials, medical supplies and other products. The President admitted that some of the supplies were lost en route. Since January, 1942, monthly exports to the United Kingdom and to the Middle and Far East more than doubled. October shipments to Russia were nine times those in January.

President Roosevelt declared that since his last lend-lease report in September, the war had entered a new phase. The United Nations were attacking on all fronts and the Axis powers had, temporarily at least, lost the initiative. In addition to bringing the full strength of the United Nations to bear directly against the enemy, the President said that other tasks were to supply medicines, food,



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clothing, and other dire needs of those peoples who had been plundered and starved. He accused the Nazis and Japanese of butchering innocent men and women in a campaign of organized terror, and of stripping the conquered lands of food and other resources. It was the policy of the United Nations, according to the President, to give every aid possible "to restore each of the liberated countries to soundness and strength, so that each may make its full contribution to United Nations victory and to the peace which follows."

Lend-lease export to China, always limited by a transportation bottleneck, was made still tighter when the Japanese took Burma. Since the loss of Burma, air transport across the Himalayas from India has been the only direct means of bringing lend-lease supplies to China. Although cargo planes have plied this route regularly the quantities they have been able to carry so far have been small.

Referring to North Africa, the President reported that about \$5,000,000 worth of civilian goods had been purchased for the people of that region. While military cargoes must come first, President Roosevelt said that medical and hospital supplies, sugar, powdered and evaporated milk, and cheese, cotton textiles, ready-made new and used clothing, and fertilizer for depleted lands would be sent as shipping space becomes available.

Although praising the increased production of war materials, the President maintained that much more would be required before the United Nations could wage the great offensive that would bring victory. "Meanwhile," he declared, "within the limits of available production, we have sought to carry out the strategic principle embodied in the lend-lease idea: this is one war; it can be won only by all the United Nations together, combining their resources in such a way as to meet the enemy with the maximum force at the chosen time and places."

### SCOPE OF ATLANTIC CHARTER

At his press conference on Oct. 27, President Roosevelt declared that both Secretary of State Hull and he had on several occasions stated that the Atlantic Charter applied to all humanity. His statement came in reply to requests for comment on criticism made by Wendell Willkie that the agreement was interpreted in Russia and China as applying to a narrow field. The agreement had been called The Atlantic Charter, according to the President, because of the place at which it was signed.

### OFFENSIVE IN NORTH AFRICA

The President announced on Nov. 7 that a powerful American force equipped with adequate weapons of modern warfare and under the command of Lieut. Gen. Dwight D. Eisenhower had landed on the Mediterranean and Atlantic coasts of the French colonies in Africa. This action, he said, provided an effective second-front assistance to the Russians. Referring to a breach in diplomatic relations with the French Vichy Government, the President said that Pierre Laval was "speaking the language prescribed by Hitler," but no act of Hitler or of any of his puppets could sever relations between the American people and the people of France. He said the French Government and the French people had been informed of the purpose of the expedition, and had been assured that the Allies sought no territory and had no intention of interfering with the friendly French authorities in Africa. He added that there was every expectation that the expedition would prove the first historic step in the liberation and restoration of France.

### STATEMENT ON DARLAN

In a statement issued on Nov. 17, President Roosevelt said that he had accepted political arrangements made for the time being by General Eisenhower in northern and western Africa. As an answer to the opposition of some American and British to Admiral Darlan, the President

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stated that the arrangement was only a temporary expedient, justified solely by the stress of battle. Its object was two-fold: to save American, British, and French lives, and to save time. The future French Government, President Roosevelt said, would be established by the French people themselves after they had been set free by the victory of the United Nations.

A month later the President reported that "since November 8th the people of North Africa have accomplished much in support of the war effort of the United Nations, and in doing so have definitely allied themselves on the side of liberalism against all of which the Axis stands in government." At the same time the President issued a statement made by Admiral Darlan in which Darlan asserted that he sought no support for personal ambitions. "My sole purpose is to save French Africa, help France and then retire to private life with a hope that the future leaders of France may be selected by the French people themselves and by nobody else."

### ASSASSINATION OF DARLAN

The assassination of Admiral Darlan on Dec. 24 wrought a sudden change in the political scene in North Africa. This tragic event not only removed a dangerous source of contention, but the selection of the popular war hero, General Henri Honoré Giraud, as Darlan's successor in the post of French High Commissioner in Africa, promised to bring all divergent factions together in harmonious support of the Allied cause.

### AMBASSADOR TO INDIA

The President informed the press on Dec. 11 that William C. Phillips, former Ambassador to Italy and former Under-Secretary of State, had been assigned as his personal representative to serve near the Government of India, with the rank of Ambassador. President Roosevelt said Mr. Phillips would go to New Delhi to take charge of an American mission established there in November,

1941, but would not carry to India any special plan or formula for the solution of the Indian problem.

### FOREIGN WAR RELIEF ADMINISTRATOR

The White House announced that Herbert H. Lehman would resign as Governor of New York on or about Dec. 3 to become Director of Foreign Relief and Rehabilitation Operations under the State Department. It was stated that Governor Lehman would undertake the work of organizing American participation in the activities of the United Nations in furnishing relief and other assistance to the victims of the war in the areas re-occupied by the forces of the United Nations. "This is a step in the President's program of mobilizing the available resources of this country in food, clothing, medical supplies, and other necessities so that it may make an immediate and effective contribution to joint efforts of the United States in the field of relief and rehabilitation," the White House said.

### BUDGET MESSAGE

In presenting to Congress the Budget for the fiscal year ending June 30, 1943—the largest budget, tax, and deficit program in the history of the country—President Roosevelt pointed out that, although the overall 1943 war cost would be approximately \$56,000,000,000, the non-war expenditures were budgeted at \$6,141,806,300, which was \$437,000,000 less than this year. He based his budget on the assumption that there would be only a moderate rise in prices, but added that Congress must act quickly with price control legislation if that assumption was to be borne out. He stated that expenditures for major Federal assistance programs, such as farm aid, work relief, and youth aid, would be reduced by \$600,000,000 from the previous to the current fiscal year, and again by \$860,000,000 from the current to the next fiscal year. He favored an amendment to the Social Security Act which would modify matching grants to accord with the needs of the various states.

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In regard to taxation the President said he believed that \$7,000,000,000 in additional taxes should be collected during the fiscal year 1943, as well as an additional \$2,000,000,000 in social security trust funds. He asked careful Congressional consideration of income taxes collected at the source, payroll taxes, and excise taxes. He expressed the personal belief that the income from state, municipal, and authority bonds was taxable under the income-tax amendment to the Constitution, and recommended legislation to tax all future issues of this character. The President recommended an increase in the coverage of old-age and survivors' insurance, addition of permanent and temporary disability payments and hospitalization payments beyond the present benefit programs, and liberalization and expansion of unemployment compensation in a uniform national system.

### WAR LABOR BOARD

President Roosevelt by Executive Order of Jan. 12, 1942 abolished the National Defense Mediation Board and established a National War Labor Board in the Office for Emergency Management. He named William H. Davis as chairman of the new board, which was to consist of 12 special commissioners appointed by the President—four representing the public, four representing employees, and four representing industry. The Executive Order established the following procedures for adjusting and settling labor disputes which might interrupt work which contributes to the effective prosecution of the war: (1) The parties must first resort to direct negotiations or to the procedures provided in a collective bargaining agreement; (2) If not settled in this manner, the Commissioners of Conciliation of the Department of Labor shall be notified if they have not already intervened in the dispute; (3) If not promptly settled by conciliation, the Secretary of Labor shall certify the dispute to the Board, provided, however, that the Board in its discretion after consultation with

the Secretary may take jurisdiction of the dispute on its own motion. After it takes jurisdiction, the Board shall finally determine the dispute, through mediation, voluntary arbitration, or arbitration under rules established by the Board. Nothing within the order was to be construed as superseding or conflicting with provisions of the Railway Labor Act, the National Labor Relations Act, or the Fair Labor Standards Act.

The President, by Executive Order of Jan. 24, appointed 24 associate members of the War Labor Board and authorized them to act as mediators in any labor dispute under the Board's direction.

### PRIORITY UNEMPLOYMENT ADJUSTMENT

The President, in a letter to Speaker Rayburn on Jan. 20, 1942 asked Congress for an emergency appropriation of \$300,000,000 to aid workers who would lose their jobs through conversion of industry to war production. He proposed the war dislocation benefits be conditioned on a jobless worker's willingness to take special steps to equip himself for a job in war production. The \$300,000,000 would be administered by the President. The program would give dislocated workers weekly compensation of 60 per cent of regular earnings, in no case more than \$24 a week for 26 weeks. The Federal grant would pay the difference between unemployment compensation paid by the state and the 60 per cent war dislocation benefits. Mr. Roosevelt said he felt the best solution of the problem would be a uniform national system extending to present Social Security laws financed by payroll contribution, but that would require more time than the emergency would allow.

### ANTI-INFLATION POLICY

In a radio address on March 10, 1942 President Roosevelt said the fight "against inflation is not fought with bullets or with bombs, but is equally vital." He said it called for unflagging vigilance and effective ac-



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tion by the Government to prevent profiteering and unfair returns for services and for goods. With the incomes of workers and farmers substantially increased as a result of the war, the President warned that if all prices kept on going up, "we shall have inflation of a very dangerous kind." This, he declared, would greatly increase the cost of the war and the national debt, hamper the drive for victory, and inevitably plunge everyone into ruinous deflation later on.

### STABILIZATION OF WAGES

In accordance with the provisions of the new Anti-Inflation Act, President Roosevelt ordered wages and salaries stabilized at Sept. 15 levels, placing such control in the hands of the National War Labor Board. No increases in wage rates and no decreases were to be authorized unless due notice should have been filed with the Board and unless it should have approved such increases or decreases, the President stated in his executive order. In addition, the order provided that "no increases in salaries now in excess of \$5,000 per year (except instances in which an individual has been assigned to more difficult or responsible work) shall be granted until otherwise determined by Economic Stabilization Director Byrnes; and no salary should be authorized "to the extent that it exceeds \$25,000 after the payment of taxes allocable to the sum in excess of \$25,000."

### CONTROLLING THE COST OF LIVING

President Roosevelt in a special message to Congress on Sept. 7 asked for legislation by Oct. 1 under which he would be "specifically authorized to stabilize the cost of living, including the price of all farm commodities." He told Congress that inaction on their part by Oct. 1 would leave him with "an unescapable responsibility to the people of this country to see to it that the war effort is no longer imperiled by threat of economic chaos." He threatened that if

Congress failed to act, he would accept the responsibility and act. Mr. Roosevelt said the purpose of the farm price legislation should be to hold farm prices at parity, or at levels of a recent date, whichever was higher, to hold the line against inflationary price increases and to get the required production of necessary farm products. He recalled that two points of his original seven-point anti-inflation program required legislation—the requested farm price legislation and an adequate tax program. He renewed his request for a top limit of \$25,000 a year on an individual's net income, for elimination of special privileges or loopholes in the tax laws, and said we must recapture through taxation all wartime profits that are not necessary to maintain efficient all-out war production.

In a radio address to the nation the President reviewed his message to Congress and asserted that the rising cost of living could be controlled, providing all elements making up the cost of living were controlled at the same time. He pointed out that he had also recommended to Congress "that in addition to putting ceilings on all farm products now, we also place a definite floor under these prices for a period beginning now, continuing through the war, and for as long as necessary after the war." In this way we would be able to avoid the collapse of farm prices which happened after the last war.

### LABOR

President Roosevelt, in a letter of March 24, 1942 to a meeting of C.I.O. leaders in Washington said: "Our free workers can give to victory far more than the Axis taskmasters can ever wring from the unwilling muscles of the regimented toilers of Europe and Japan." Asserting that American workers in recent years have gained new privileges and reaffirmed old rights, he warned: "If we lose this war, they and all the rest of our American liberties will be lost." He told his press conference he believed the 40-hour week should stand un-

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changed. In regard to a proposed 48-hour straight time work week, the President said he did not want the pay envelopes of average workers reduced. He added, however, that he did not favor increases in a great many higher wage brackets. At a later press conference (reported April 7), the President said it had been definitely established that the average industrial worker produces more goods when he works a 48-hour week than when he works a 60-hour week. He opposed any plan to provide lower payments for workers who turn out a greater number of articles in their given work period. He stated he was opposed to the piece work system in peacetime and was more opposed to it in wartime because he believed the workers of the nation were turning out all the material they possibly could.

### SEVEN WARTIME ECONOMIC CONTROLS

In a message to Congress on April 27, President Roosevelt asked for a seven-point program of wartime economic controls in order to keep the cost of living from spiraling upward. The seven points were: (1) Tax heavily, keeping personal and corporate profits at a reasonable rate, the word "reasonable" being defined at a low level. (2) Fix ceilings on the prices which consumers, retailers, wholesalers and manufacturers pay for the things they buy; and ceilings on rents for dwellings in all areas affected by war industries. (3) Stabilize the remuneration received by individuals for their work. (4) Stabilize the prices received by growers for the products of their lands. (5) Encourage all citizens to contribute to the cost of winning this war by purchasing war bonds with their earnings instead of using these earnings to buy articles which are not essential. (6) Ration all essential commodities of which there is a scarcity, so that they may be distributed fairly among customers and not merely in accordance with financial ability to pay high prices for them. (7) Discourage credit and instalment

buying and encourage the paying off of debts, mortgages, and other obligations. The President said legislation was necessary for item (1) and for item (4) with respect to farm prices.

President Roosevelt stated that we must act at once to keep the cost of living from soaring. In his opinion only an all-embracing program would suffice. Profits must be taxed to the utmost consistent with continued production. No American, he declared, in time of this grave national danger when all excess income should go to win the war, ought to have a net income, after payment of taxes, of more than \$25,000 a year.

### HOUSING FOR WAR WORKERS

In a special message to Congress on May 27, President Roosevelt requested an additional \$600,000,000 appropriation for housing an estimated 1,600,000 war workers who were expected to move into war production centers in the fiscal year beginning July 1. The housing need, the President told Congress, was running so far ahead of the supply all over the nation that there was a serious threat the effective use of expanding plants would be reduced unless the housing situation was remedied at once.

### CHILD ASSISTANCE PROGRAM

In a letter of Aug. 22 to Secretary Walter F. George, the President asked Congress to authorize funds for an expanded Federal child assistance program. He said that in the mobilization of the resources of the nation for war, the special needs of mothers and children arising from war conditions must not be overlooked. He requested an amendment to the Social Security Act enabling the Children's Bureau of the Department of Labor "to cooperate with state agencies now administering maternal and child welfare services, services for crippled children, and child welfare services, in extending these programs to meet war conditions." The President estimated that \$7,500,000 would be required for these purposes during the first year of the expanded program.

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### REHABILITATION SERVICE

On Oct. 9 the President asked Congress to create under the Federal Security Administrator a single Rehabilitation Service to provide not only for persons now handicapped "but also for persons disabled while members of the armed forces and for the increasing number of accident cases that are accompanying the rapid expansion of our war industries."

### ECONOMIC STABILIZATION

On Oct. 3, President Roosevelt issued an Executive Order establishing an Office of Economic Stabilization, with an Economic Stabilization Director at its head. This latter post was given to James F. Byrnes, who resigned from the Supreme Court to assume his new duties. Mr. Byrnes was directed to develop a national economic policy relating to the control over "civilian purchasing power, prices, rents, wages, salaries, profits, rationing, subsidies, and all related matters." To advise him on policy a board was set up composed of various government officials and two representatives each of labor, management, and farmers. The Executive Order contained specific provisions regarding wage and salary increases, prices of raw and processed agricultural commodities, price ceilings on foods, and rents. The guiding policy of the Director and all departments and agencies of the Government was stated to be the stabilization of the cost of living.

In a letter to Director Byrnes released on Dec. 15, the President authorized Mr. Byrnes to serve as his agent in the event of any disagreement arising between the Secretary of Agriculture and any officer or agency of the government in the administration of the provision of the food order.

### STABILIZATION OF WAGES OF GOVERNMENT EMPLOYEES

On Dec. 11 President Roosevelt sent letters to Speaker Rayburn and Vice-President Wallace asking immediate enactment of legislation to pro-

vide uniform work-week and overtime pay policies for the civilian employees of the Government. Lacking enactment of such a bill, he asked legislation delegating authority to himself to deal with problems of wage and salary rates, hours of work, and overtime compensation. He wrote that he realized the difficulties of finding an adequate solution but felt the problem was so urgent that, unless Congress could arrive at a solution within a few days, it should delegate to him power to meet the problem himself. Congress speedily passed the required legislation.

### REPORT ON INSPECTION TOUR

After a transcontinental trip of inspection of camps and training stations and war factories, President Roosevelt broadcast his findings by radio on Oct. 12. He commented on the unbeatable spirit he had found everywhere and said that the greatest defense against Nazi propaganda was the common sense of the common people. Referring to Nazi atrocities in Europe, the President declared that, while the United Nations sought no mass reprisals against the populations of Germany or Italy or Japan, the ringleaders and their brutal henchmen must be apprehended and tried in accordance with the judicial processes of criminal law.

The President remarked that the stepping-up of production had presented a formidable problem in the mobilization of manpower. The problem was not so much one of numbers as it was of having the right people in the right places at the right time. In order to do this, the President said we would be compelled to stop workers from moving from one war job to another; to stop pirating of labor; to use older men and more women; and to stop the wastage of labor in all non-essential activities. Scarcity of farm labor he pronounced the most difficult phase of the manpower problem. New legislation might have to be adopted if all volunteer efforts did not suffice to solve the problem.



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After watching the training of the fighting forces President Roosevelt expressed the belief that it would be necessary to lower the minimum age limit for selective service from 20 years down to 18.

### RUBBER PROGRAM

President Roosevelt, in a message to the Senate on Feb. 17, 1942 vetoed a bill to promote the production of guayule and other rubber-bearing plants in this country as it failed to provide for promotion of other important sources of crude rubber in the Western Hemisphere. The President said the bill, as amended by the House and finally passed, would limit the promotion of guayule cultivation to the United States, thus being contrary to a resolution adopted by the Rio de Janeiro Conference which proposed that "continental solidarity be translated into positive and effective action in obtaining strategic materials." Mr. Roosevelt declared the bill would seriously handicap our joint war effort, and urged Congress to give immediate reconsideration to similar legislation but applicable to all the American republics. Congress later amended the bill to meet the President's objections and it became a law.

The President, by Executive Order of May 4, authorized the Office of Defense Transportation to formulate measures to conserve and assure maximum utilization of the existing supply of civilian transport services dependent upon rubber, including limitation of rubber-borne transportation facilities in non-essential civilian activities and regulation of and distribution of such facilities among essential activities. The order specified that other government departments and agencies performing functions relative to conservation or use of rubber-borne transportation shall conform to policies determined by the O.D.T.

On June 9 the President told his press conference he was working on plans for a short and snappy nationwide rubber salvage campaign to determine definitely how much scrap

rubber was available in the United States. The principal transportation problem facing the nation was rubber, he stated. A few days later he ordered an intensive two weeks' drive, beginning June 15, to collect all rubber that had been or could be discarded. After the completion of the drive the President reported that 450,155 tons of scrap rubber had been added to the Government's stockpile.

On Aug. 6 President Roosevelt set up a three-man committee, composed of Bernard M. Baruch, chairman, Dr. James M. Conant, and Dr. Karl T. Compton, to study the entire synthetic rubber program. This committee later reported that the rubber situation was so dangerous that unless corrective measures were taken immediately the country would face both a military and civilian collapse. The committee recommended complete reorganization of government agencies concerned with the rubber program and appointment of a national rubber administrator with full responsibility for conservation and synthetic production programs. To conserve rubber the committee specifically recommended a national speed limit of 35 miles per hour, a national gasoline rationing system based on an annual average of 5,000 miles per car, and compulsory periodic tire inspection. The President in transmitting the report to Congress said the recommendations would be put into effect as rapidly as arrangements could be made. On Sept. 18 he issued an Executive Order giving War Power Board Chairman Nelson and Rubber Director William M. Jeffers full authority to direct the Government's rubber production and conservation program, with Mr. Jeffers operating directly under Mr. Nelson.

### ARMY REORGANIZATION

President Roosevelt, by Executive Order effective March 9, 1942 reorganized the United States Army to make possible faster, better coordinated military action. He set up three basic units under the Army Chief of Staff: Army Ground Forces,

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Army Air Forces, and Services of Supply, each under a commanding general. The President also authorized Secretary Stimson to set up, as he found necessary for national security, such other departments as overseas departments, task forces, base commands, defense commands and commands in theaters of operations. The Executive Order specified that the President retained authority to exercise through the Chief of Staff the presidential functions as Commander-in-Chief in relation to the strategy and tactics of prosecuting the war. Secretary Stimson appointed Lieut. Gen. H. H. Arnold to the Air command; Lieut. Gen. L. J. McNair to the Ground Forces command; and Major Gen. Breton B. Somervell to the Services of Supply command.

### CIVILIAN DEFENSE

President Roosevelt, by Executive Order of April 15, established a Civilian Defense Board within the Office of Civilian Defense to integrate O.C.D. activities more closely with those of other Federal, State, and local war agencies. Under the order, Director Landis of the O.C.D. was directed to perform his duties under supervision of the President and with the advice and assistance of the Board. It was expected that the O.C.D. would be established as the center for coordinating Federal civilian defense activities which involve relationships between the Federal and state and local governments.

### OFFICE OF WAR INFORMATION

The President by Executive Order of June 13 established the Office of War Information in the Office for Emergency Management with Elmer Davis, writer and radio commentator, as director. The President said the director would have authority, subject to policies laid down by him, to issue directives to all departments and agencies of the Government with respect to their informational services, to eliminate all overlapping and duplication, and to discontinue any informational activity which was not

necessary or useful to the war effort. The agency was to deal with dissemination of information within the United States and in all foreign countries except Latin America.

### POLICY TOWARD ENEMY ALIENS

President Roosevelt by proclamation on Jan. 14, 1942 ordered registration of all alien enemies in the United States, Puerto Rico, and the Virgin Islands. All "natives, citizens, denizens or subjects" 14 years old or more of any nation or government at war with the United States were required to apply for and obtain certificates of identification at times and places fixed by the Attorney General. After the date fixed by the Attorney General for completion of registration, every enemy alien within the limits prescribed by the proclamation must carry an identification card at all times.

On Feb. 21, the President authorized the Secretary of War and military commanders he might designate to exclude citizens and aliens from certain military control areas, in a move which Attorney General Biddle said was designed to force evacuation of some 60,000 second-generation Japanese from west coast areas.

The President by Executive Order of March 11 set up the Office of Alien Property Custodian in the Office for Emergency Management, and named Leo T. Crowley, chairman of the Federal Deposit Insurance Corporation, as its head. The Office assumed control of approximately \$7,000,000,000 in alien assets frozen in this country.

### NEEDED PATENTS TAKEN OVER

On April 21 President Roosevelt told his press conference that he had instructed Alien Property Custodian Crowley to take over all patents controlled directly or indirectly by the enemy and to make them freely available for war purposes of the United Nations and the national needs of this country. The President said such patents would not be returned to the enemy at the end of the war.

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### **TRIAL OF NAZI SABOTEURS**

President Roosevelt created a special Military Commission to meet in Washington on July 8, or as soon after as practicable, to try eight Nazi saboteurs apprehended by the F.B.I. after they landed in this country from U-boats. He gave the Commission authority to make its own rules for the conduct of the trial, provided they were consistent with the Articles of War. He ordered that the record of the trial, including any judgment or sentence, should be transmitted directly to him for his action thereon. The President also signed a proclamation denying to certain aliens in time of war access to the civil courts. All enemies entering the country as part of an invasion or predatory incursion, or who have entered to commit sabotage, espionage, or other hostile or warlike acts, were made subject to the law of war and to jurisdiction of military tribunals.

### **REMOVAL OF TRADE BARRIERS**

In a message to Congress on Nov. 2, the President asked that he be given sweeping wartime power to suspend any laws hampering the free movement of persons, property, and information into and out of the United States. He emphasized that the speed and volume of war output had become more than ever before in our history the primary conditions of victory. The message referred to difficulties of cooperation among the United Nations in the field of war production. It was necessary, it stated, to take advantage of possibilities of procurement from every available source, foreign or domestic. Strong opposition to the grant of such sweeping powers developed, and Congress failed to pass the requested law.

### **POST-WAR TRANSPORTATION**

On Nov. 5 President Roosevelt sent to Congress a National Resources Planning Board report recommending major modernization of the country's transportation facilities after the war under the direction of a new Federal agency, into which

would be consolidated all present government transportation development agencies. The new agency would be responsible for consolidating railroads and other transportation systems, constructing terminals, coordinating systems and encouraging new forms of transport. "The American people have always known that adequate transportation and communication facilities are essential to national unity," the President told Congress. "We have relied upon transportation as the key factor in the development of our national resources, and we know that our transportation plant and policies are playing a major role in winning the war and that they will play a similar role in winning the peace."

### **PRESIDENTIAL ORDER ON MANPOWER**

"In order to promote the most effective mobilization and utilization of the national manpower and to eliminate so far as possible waste of manpower due to disruptive recruitment and undue migration of workers," President Roosevelt reconstituted the War Manpower Commission and named Paul V. McNutt as its chairman. The order, issued Dec. 5, gave Mr. McNutt sweeping powers, including control over the operations of the Selective Service system and the moving of workers in non-war industries into war industries. At the same time the President terminated voluntary enlistments into the armed forces of all persons between the ages of 18 and 38 years.

### **LIQUIDATION OF W. P. A.**

In a special message to Congress May 25, President Roosevelt reduced his Works Progress Administration request for the 1943 fiscal year from \$465,000,000 to \$282,767,000. The drawing of workers into the war effort greatly reduced the need for a work relief program.

In the face of rising war employment the President, on Dec. 4, abolished the W.P.A. He instructed Major Gen. Philip B. Fleming, Federal Works Administrator, to close out

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all project operations in many states by Feb. 1 and in other states "as soon thereafter as feasible." He noted that a large amount of the appropriation for this fiscal year could be conserved and that there would be no need to provide W.P.A. funds in the budget for the next fiscal year, war work having reached the point where a national work relief program was no longer necessary.

### CREATION OF PETROLEUM ADMINISTRATION

On Dec. 2, President Roosevelt established the Petroleum Administration for War and appointed Secretary of the Interior Ickes as Petroleum Administrator. The purpose of the new agency was "to coordinate and centralize the war policies and actions of the government relating to petro-

leum with a view toward providing adequate supplies of petroleum for the successful prosecution of the war and for other essential purposes."

### FOOD ADMINISTRATION

By an Executive Order of Dec. 6 the President gave Secretary of Agriculture Wickard full responsibility for and control over the nation's food program, including the ascertainment of food requirements, the formulation and carrying out of a program designed to furnish adequate supplies of food, the assignment of food priorities and the allocation of food, the taking of appropriate steps to insure the efficient and proper distribution of the available supply of food, and the purchasing and procurement of food for such Federal agencies as he shall determine necessary and desirable.

## NATIONAL PERSONALITIES

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### FRANKLIN D. ROOSEVELT

Mr. Roosevelt, in his tenth year as President, subordinated his activities as a political leader and ceremonial head of the nation to concentrate upon his great wartime responsibilities as commander-in-chief. Declaring "politics is out" for the duration, he endeavored in word and deed to be the leader of the country.

One month after Pearl Harbor in his annual message "on the state of the Union," the President dedicated the United States unreservedly to service on a world-wide front against the enemy "wherever and whenever we can reach him." Emphasizing that our superiority must be overwhelming "...so overwhelming that the Axis nations can never hope to catch up with it," he called for the production of 60,000 planes, 45,000 tanks, 20,000 anti-aircraft guns, and 8,000,000 deadweight tons of merchant ships in 1942. In a "fireside chat" on Feb. 23, 1942 the President stressed the need "for uninterrupted production"

but expressed confidence that these goals would be attained, and promised that the United States would soon have the offensive. When the tide of the war did not turn at once in our favor and amateur military strategists became too vociferous, Mr. Roosevelt read to his press conference a speech delivered by Livy, Roman Consul charged with conducting war in 168 B.C., in which amateur military advice was ridiculed as interfering with the prosecution of war. Again in November the President, without mentioning names, took a fling at those who talk about the conduct of the war without knowledge of all the facts. "I think you will realize that I have made a constant effort," said the Commander-in-Chief, "to keep politics out of the fighting of this war." Confessing that "my foot slipped once," he related how he yielded to clamor in unwisely announcing the sinking of the aircraft carrier *Wasp*, "partly in realization ...that if the news of the sinking



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were given out two or three weeks later it would be publicly charged that the news had been suppressed by me until after election."

Early in this election year of 1942, the President indicated he reserved the right to intervene in his home state politics. When the convention date drew near, he declared he was ready to support any liberal candidate for Governor of New York provided that the candidate had supported his war policies 100 per cent before Pearl Harbor. Some Democratic leaders felt the President had in mind Senator James M. Mead, one of his most consistent Congressional supporters. However, Mr. Farley immediately issued a statement saying that his candidate, John J. Bennett, had these qualifications. Although Mr. Roosevelt declared on July 17 that he was too busy being President to discuss his choice for nomination, yet within a few days he openly endorsed Senator Mead, and the battle for control of the New York state organization was on. His intervention even in his home state was without avail, and Mr. Bennett was easily nominated. Nevertheless, as a faithful Democrat, the President announced Oct. 4, the day registration began in New York City: "I will cast my ballot for John Bennett because I believe he is best qualified." Outside his own State of New York, Mr. Roosevelt held his love of the hustings in check, making only one public endorsement: he repeated his 1936 plea for reelection of Nebraska's Senator Norris, an independent.

It seemed that wartime responsibilities would confine Mr. Roosevelt to Washington throughout the year, but in early fall the President traveled 8,754 miles in two weeks crossing the continent to visit war plants and military establishments. Much to the dissatisfaction of the press, the itinerary of the trip and newsworthy episodes connected with it were not reported until the President was back in the White House. Although he had an inspiring look at the country which he praised as having the right kind of morale and spirit, the Presi-

dent was critical of Congress, the Administration itself, and Washington newsmen when he returned. He chided Congress for delaying passage of his anti-inflation program which he first requested in April and demanded in September, threatening to invoke executive powers to knock down statutory farm price ceilings and provide new taxes if Congress did not act by Oct. 1. Peculiarly enough Franklin Roosevelt disassociated himself from the administration and berated officials for pessimistic statements that production was below par and that the nation was losing the war. His aids were confused by the President's failure to delegate authority clearly and by lack of organization at the top of the administrative structure, serious administrative defects, which only the President himself could correct.

Directly after the election in which the people registered their dissatisfaction with the Administration, the Chief Executive reacted quickly by abolishing the Works Projects Administration, settling a neglected row between the military and the War Production Board, enlarging the powers of Mr. McNutt over manpower and Secretary Wickard over food, and finally accepting Mr. Henderson's resignation as Price Administrator.

When Mr. Willkie expressed the feeling of some of the Far Eastern countries that the Roosevelt-Churchill war aims were limited to the Atlantic area only and there was a need for a Pacific Charter, too, President Roosevelt reaffirmed that the Atlantic Charter applies to all humanity. When the United States dealt with the late Admiral Darlan in North Africa, the chief executive explained to critics that this policy was one of "temporary expediency." The dominant note in America's war effort is unity, "unity of our people and unity of the United Nations." President Roosevelt declared in a letter to the editor of the *Army and Navy Journal*. His confidence in unity was clearly expressed after the November elections when he said that he

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assumed that the new Congress, with 44 more Republicans in the House and nine more in the Senate, would be as much in favor of winning this war as the chief executive himself.

### WENDELL L. WILLKIE

For a defeated presidential candidate to continue in the lime light of public attention is unusual, but Wendell Willkie by his continued activity in 1942 attained a unique place in American public life.

The outstanding feat of the Republican candidate in 1942 was a 31,000 mile world-circling trip which took him to 14 countries where, as President Roosevelt predicted, Mr. Willkie's message on the unity of the American war effort carried great weight because of his position as leader of the minority party. Mr. Willkie's visits to the world battle fronts in Russia and China impressed upon him the tremendous roles these countries were playing in the global war. While in Russia he supported the demand for a second front and in China he asked for a clear-cut renunciation of any imperialistic designs by the Western nations in Asia. He reported to the President "frankly and candidly" upon his return, on Oct. 14, relative to the responsibilities which he had carried out for him.

A fortnight later, over combined networks, he broadcast a promised report to the American people. Pressing home the fact that the people of all the world look toward this country, he declared that "there is a great reservoir of good will toward the United States," but that reservoir is leaking because our performance has not measured up to promises and there is doubt about Anglo-American war aims. In reiterating his demands for a second front, he assailed the contention that private persons not expert in military affairs or connected with the Government should refrain from making suggestions about the conduct of the war. Mr. Willkie stated three things are necessary to winning the peace: "We must plan now for peace on a global basis; the world must be free, economically and politically,

for nations and men that peace may exist in it; America must play an active, constructive part in freeing it and keeping its peace."

As titular head of the party, he urged Republicans in his Lincoln's Birthday address to exercise their influence to correct the Government's "preposterously ineffectual" labor policy and to halt the "gradual destruction" of the State Department by the creation of new agencies. Hitting at military red tape, he also deplored the "lack of awareness in Washington" which permitted the inefficient command at Pearl Harbor. In April he forced an unwilling Republican National Committee to adopt a resolution pledging "that our nation has an obligation to assist in the bringing about of understanding, comity, and cooperation among the nations of the world..." In August, Willkie proposed a victory creed as a basis for his party's platform in the Congressional elections. Former non-interventionists refused to accept it, claiming it sought to commit the G.O.P. to a League of Nations and policing of the world. When the Republican National Committee met in December to choose a new chairman, Mr. Willkie succeeded in bringing about the defeat of the isolationist candidate, and when asked for comment on the selection of Harrison E. Spangler for the post, he said: "A person should not boast after victory."

Although the 1940 presidential candidate was pressed to accept the nomination for the governorship of New York in 1942 on a coalition ticket, he rejected it, having earlier made plain that he would not consider running for any office other than the presidency. In the primary campaign Mr. Willkie urged the defeat of Representative Hamilton Fish, arch-isolationist, declaring that his renomination would damage the party nationally, and by inference he assailed Thomas E. Dewey for failure to "face the issues" in the Fish fight.

When the United States resorted to "temporary expediency" in the North African invasion and accepted co-operation from the former vice pre-



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mier (Darlan) in the Vichy regime, the most eloquent opposition came from Wendell Willkie. "The United States has lost moral force...and by it we may lose the peace..." he declared. With all my soul I hate this false finangling with expediency." When the American Hebrew Medal for the "promotion of better understanding between Christians and Jews in America" was awarded to him on Dec. 17, it was revealed that President Roosevelt as one of the judges had stated: "I cast my vote for Hon. Wendell L. Willkie because he is working consistently throughout this war and in other nations for tolerance and better understanding."

Mr. Willkie has become a liberal leader almost without partisan distinction and it has been naively suggested that he might run for the Presidency as "that man Willkie" without party designation. Because he has virtually cast politics to the winds, the possibility of his renomination by the Republican party in 1944 seems slight.

### HENRY A. WALLACE

When the members of the first Congress facetiously suggested that the Vice-President be called "His Superfluous Excellency," they did not conceive of such a man as Henry A. Wallace in this "ornamental office." In 1942 the incumbent Vice-President, one of the Administration's "deepest thinkers," worked on as a persistent planner. He continued as chairman of the Board of Economic Warfare and maintained his interest in our neighborly relations with Latin American countries. Mr. Wallace's activities have made him a figure of real importance in external as well as domestic affairs and his numerous public addresses show his concern with post-war problems at home and abroad.

When the Dies Committee charged 35 employees of the Board of Economic Warfare with Communistic affiliations, Mr. Wallace castigated Representative Dies for attempting to raise "doubt and anger" in the public mind which "might as well come from statements of Goebbels

himself." Jurisdictional conflict arose between the State Department and B.E.W. and in settlement the Board recognized the primary responsibility of the Secretary of State in formulation and conduct of our foreign policy, while in matters of business judgment concerned with providing for the production and procurement of materials to be imported into this country for the war effort, the Department of State recognized the Board's primary position. When both matters of foreign policy and business judgment are involved, the Secretary of State and the Vice-President discuss the issue and reach joint decisions.

In an address to the Congress of American Soviet Friendship, popularly known as his "Free World" speech, Mr. Wallace disclosed that Russia had been given our "No. 1 priority" by the President. Envisioning a post-war world, he said that it must rest upon a new kind of democracy that would be neither old-fashioned international communism, nor old-fashioned isolationist democracy. "The new democracy, the democracy of the common man, includes not only the Bill of Rights but also economic democracy..." Speaking in commemoration of Woodrow Wilson on the anniversary of his birth, Dec. 28, Vice President Wallace outlined the post-war task of this generation. In preparation of this address, he conferred with President Roosevelt, and the suggestions for the establishment of machinery to disarm aggressors and for a post-war council to settle disputes which were made in the speech were considered to be trial balloons sent out by the Chief Executive. Believing that America is aware of its "isolationist folly," the Vice-President proposed that the United States join in the establishment of a new world-wide democracy founded on the two principles of liberty and unity, or "in other words, home rule and centralized authority which for more than 150 years have been the foundation stones of our American democracy and our American Union."

The Vice-President championed

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"seven freedoms" for Mexicans on Mexico's Independence Day, adding to the four freedoms enunciated by Mr. Roosevelt the following: "first, the freedom to buy land at a reasonable price; second, the freedom to borrow money at a reasonable rate of interest, and third, the freedom to establish schools which teach the realities of life." Realizing that agricultural problems are international, Mr. Wallace suggested an international ever-normal granary coupled with a floor under prices, and he warned against the "new isolationism" that might develop to protect war-born products like synthetic rubber.

On a visit to the White House after the fall election, Mr. Wallace declared that it was a "miracle that the light vote did not enable the Republicans to capture the House. The people who are well to do can take time to go to the polls," he explained, "and the generally well to do are Republicans." Late in the year the Vice-President exhibited optimism about the outlook of the war and bade Americans to be thankful.

### CORDELL HULL

After having borne the brunt of the criticism of the Administration's policy toward the Vichy French Government for almost a year, Secretary of State Hull saw his actions vindicated before the end of 1942. When the North African colonies once governed from Vichy were successfully invaded by the United States military forces, his course was shown to have been justified; further, military and diplomatic matters were far better coordinated than on Dec. 7, 1941. Hindsight reveals the full significance of Mr. Hull's statement on May 31 that the whole course of the United States' relations to France was prompted by the central objective of advancing the military progress of the United Nations and winning the war.

On July 23 Secretary Hull delivered what President Roosevelt heralded as one of the most important speeches since the United States became involved in war. Projecting a new League of Nations with teeth in it

Mr. Hull explained: "It is plain that some international agency must be created which can—by force if necessary—keep peace among nations in the future. There must be international cooperative action to set up the mechanisms which can thus insure peace." He also proposed that there be no immediate peace settlement but instead a "cooling off" period in which the losers will continue on probation until they demonstrate that they will fit in with the family of nations and cooperate in the establishment of measures to promote world peace and prosperity. The Secretary placed characteristic emphasis on the need for restoring economic stability as the first requirement for an effective world order.

Mr. Hull significantly congratulated the Soviet Union at the end of Russia's first year of fighting the Axis. He said that the Red Army had acquitted itself so as to "win the admiration of the liberty loving peoples of the world..."

When the Board of Economic Warfare in its activities seemingly conflicted with the jurisdiction of the State Department, the veteran Secretary secured a statement from the President that left no question as to the State Department's being in full charge of our foreign relations. In May he indicated that he saw some grounds for hope that victory for the United Nations might come sooner than had been expected when war was first declared, and thereby contributed to what was later held to be "false optimism" among American people.

Notwithstanding that the Vichy policy pursued by the State Department under the immediate direction of Cordell Hull proved to be of great value, a new burst of criticism fell on the Secretary of State and his Department when this foreign policy resulted in dealings with Admiral Jean Darlan out of "temporary expediency."

### THOMAS E. DEWEY

Early in 1942 Mr. Dewey disclosed his intention of running again for the governorship of New York. A

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sustained gubernatorial campaign from February until Nov. 3 culminated in victory by a handsome majority and at 40 Thomas E. Dewey became the first Republican Governor of the Empire State in more than 20 years, a most remarkable feat. There was considerable opposition to Mr. Dewey's candidacy, chiefly on the charge of isolationism before Pearl Harbor, and a "draft Willkie" movement also threatened to thwart his ambition, but Mr. Willkie would not run, and Mr. Dewey backed by the Republican organization was nominated without opposition in late summer.

The prospective candidate, in a Lincoln Day speech before the National Republican Club, sought to allay suspicion and make plain his uncompromising determination that, "We shall wage this war to a total victory." He denounced "an American Cliveden set" of appeasers who might seek a negotiated peace and use the Republican party to achieve this "cowardly end." Mr. Dewey declared that the Republican party had the responsibility of criticism of the Administration and of protection of the American way of life against reactionary changes which might be smuggled in under cover of war. At the same time he maintained that the G.O.P. must give full support to the war effort. Following this pattern at the time of his nomination, Mr. Dewey pledged his own and his party's loyalty to the nation's commander-in-chief in wartime, but reiterated the right of free criticism to maintain democracy on the home front.

While he announced his disinterest in the national political picture, declaring that if elected he would devote the next four years "exclusively to the service of the people of the state of New York," he pointed out that the New York Democrats were more interested in controlling the Democratic National Convention in 1944 than in picking the best qualified man for governor. At a Monroe County rally Oct. 14, Mr. Dewey stated that the most reactionary element in New

York State controlled the Democratic state organization and that only through election of the Republican ticket could vigorous and progressive administration be assured. Although state governmental problems, particularly taxes, were discussed during the campaign, the Republican candidate continually criticized weaknesses in the administration of the Federal Government. Mr. Dewey countered the charges that he represented isolationism by going into the district of Representative Hamilton Fish to disavow the latter's reelection because of his isolationist principles.

In his victory statement Dewey declared: "The fact that one party won and the other lost is not important. We are not here tonight to celebrate a party victory. We are all of us interested in only one victory—total, uncompromising, crushing victory over our country's enemies..."

### MRS. FRANKLIN D. ROOSEVELT

Although Mrs. Roosevelt has always been more prominent than previous first ladies, she was more of a public figure in her own right in 1942 than ever before. George Gallup, after sampling opinion, concluded: "Mrs. Franklin D. Roosevelt probably is the target of more adverse criticism and the object of more praise than any other woman in American history." In addition to her usual journalistic work, public speeches, and championing of worthy causes, the President's wife for a short while occupied an important administrative post in the Office of Civilian Defense and in late fall she journeyed to England at the personal invitation of Queen Elizabeth.

Mrs. Roosevelt's intense interest in the part women can take in the war effort underlay all her activities. Her connection with O.C.D. was due mainly to her desire to promote the training of women for war work, especially for work on the farms. Mrs. Roosevelt was not spared in the burst of public criticism of the defense agency for in her administrative role she was considered a public character and the unwritten code of the



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press that the First Lady shall be immune from public censure was disregarded. Shortly after James M. Landis became director of the O.C.D. she submitted her resignation. "I did not wish to leave the O.C.D. until I could feel that I was doing so with completely competent people in charge," Mrs. Roosevelt stated. "That is now accomplished, and by remaining I would only make it possible for those who wished to attack me, because of my beliefs, to attack an agency which I consider can prove its usefulness so completely to the people, that it should be free of attacks..." After this difficulty Mrs. Roosevelt declared that she would not accept any more governmental offices so long as she is First Lady. Her acts are politically significant, however, for she often reflects the President's counsel. For example, her endorsement of John Bennett for the governorship of New York was the precursor of the President's subsequent approval.

Early in the year the President's wife was named on the Honor Roll in Race Relations as the result of the poll conducted by the New York Public Library. Speaking on the general theme "American Democracy and the Welfare of Negroes" on Aug. 5, she pointed out encouraging trends in race relations. Mrs. Roosevelt continually urged an international approach to post-war racial, political, and economic problems stressing the importance of tying up wartime activities with contributions to the future. She suggested that Americans "prepare to think as citizens of the world," and be willing to try worldwide experiments that would benefit all nations.

In her widely syndicated column "My Day," Mrs. Roosevelt announced from England that she had come "to see...the work of the women of Britain." By maintaining a whirlwind pace she not only observed women's war work, but talked with American soldiers, people of Britain, high government officials, and was graciously entertained by official society. Her activities won wide

approval. Upon her return, Mrs. Roosevelt declared that she had learned a "tremendous amount" and had brought back "any number of ideas for the United States..." She was enthusiastic about the "far-sighted policies" of the Ministries of Food and Labor, declaring: "I'd like to see us plan for the future, now, as they are doing." Although much impressed by the work English women were doing, she indicated that the time had not come for drafting of women in the United States.

### ROBERT A. TAFT

During 1942 Senator Taft (Ohio) urged "military action" and voiced constructive criticism of the war effort. In the factional duels in the Republican organization the Ohioan was the principal opponent of Wendell Willkie, nominal leader of the G.O.P.

Notwithstanding his prediction of a conflict lasting four or five years, Mr. Taft declared the nation's war aims "should be to march to Berlin and Tokyo as quickly as we can." He insisted that a sound governmental fiscal policy was more important than any price control scheme. To combat inflation he proposed a five-point program in which he recommended that government bonds be sold to private investors instead of commercial banks, that the farm price floor be lowered to 100 per cent of parity, and that a commodity board replace Leon Henderson as price control chief. Criticizing the Administration tax bill as failing to tax all the people, Senator Taft urged a 10 per cent retail sales tax on all except food purchases. Concerned about manpower, he charged in September that the Administration hesitated to draft 18- and 19-year old youths because of the approaching election. He had his own ideas for this legislation which constituted more than a "draft law" amendment, for he aimed at voluntary manpower distribution in "an orderly way."

When the Republican National Committee, encouraged by Wendell Willkie, resolved in April to help

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bring about "an understanding comity and cooperation among nations of the post-war world," Senator Taft said he thought it "a great mistake" for the committee to have expressed any policy of post-war action, but he was satisfied that the committee had "drawn the teeth" of Willkie's resolution. When Mr. Taft vigorously supported a Chicago isolationist as chairman of the Republican National Committee, he did so not so much out of belief in this candidate's principles as a desire to repudiate Willkie, whose purpose it was to defeat the isolationist. Although it is doubtful that Mr. Taft had ever become reconciled to the April resolution supporting internationalism, nevertheless, he offered a resolution to the Republican Committee on the anniversary of Pearl Harbor reaffirming the resolution passed by the earlier meeting and pledging "to those who died that day that they shall not have died in vain." Senator Taft asserted in a letter to the Hamilton County Republican Committee in December that he would not be a candidate for the Republican presidential nomination in 1944 and endorsed John W. Bricker as an outstanding candidate.

### JAMES A. FARLEY

The political genius which first made Mr. Farley prominent in national affairs was shown again in 1942 when he overcame the preponderant influence of the White House to nominate his candidate, John J. Bennett, Jr., on the Democratic ticket for governor of New York. This contest was inseparable from that for the choice of delegates to the 1944 Presidential Convention and is therefore especially significant. President Roosevelt indicated early in the summer that he believed Mr. Bennett, if nominated, would be defeated, and when he could not persuade Mr. Farley to adopt a compromise candidate who would be more acceptable to liberals, he joined the New Deal drive to "stop Bennett." In a pre-convention statement, Mr. Farley defied the White House for the second time in two years when he stated

that the President's candidate, Senator James M. Mead (N. Y.), would "make a terrible governor" and predicted "sure disaster" for Mead's candidacy. When Mr. Bennett won the nomination over Mead in the August convention, his victory was attributed to the great personal popularity and strength of the State Chairman.

At the height of the election campaign in October, Mr. Farley charged that Mr. Bennett's Republican rival was a political reactionary who was fomenting distrust and suspicion of the conduct of the war. The defeat administered his candidate Nov. 3 by Thomas E. Dewey was hailed by some as the beginning of the end for James A. Farley, but he promptly indicated that he would continue as State Chairman in New York and had no intention of retiring from politics. "A definite trend against the National Administration, brought about by numerous causes," Farley declared, "resulted in a protest vote and made possible the defeat of Democratic candidates." Soon after the election he made a western trip, renewing contacts with "old political and personal friends" who might join with him in opposition to any effort to renominate President Roosevelt.

### HAROLD E. STASSEN

Before 35-year-old Governor Stassen of Minnesota was reelected to a third term in November, he announced his plan to resign in April, 1943, to begin active duty with the Navy. In March, 1942, he joined the Naval Reserve and shortly thereafter spent several weeks in training. He made this statement in explanation of his action: "During the first stage of the war when the production of the means of war, the stabilization of labor relations, the organization of strong defense internally, and the adoption of sound wartime policies is so important, I have decided I can best serve here. But when the war enters its second stage in the great offensive drive for victory against the Axis, then I believe I can best serve with the armed forces."

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Notwithstanding this preoccupation with armed service, Mr. Stassen was an active Governor. As chairman of the National Conference of State Governors, he protested before the Ways and Means Committee of the House that the Administration plan for compensating war-displaced workers not only "could be used to federalize completely" the unemployment compensation system, but that it would make it "extremely difficult for farmers to obtain help at a time when they are facing constant requests to raise their quotas."

In April the Minnesota Governor was appointed a member of the Civilian Defense Board, an advisory body to the Office of Civilian Defense, assisting Director Landis on problems arising in state and local communities affected by the war. At the annual Governors Conference Mr. Stassen urged that the United States break with traditional isolationism, and the Midwest Republican leader significantly proposed a post-war "world association" based upon the United Nations and modeled upon the relationship which exists among the states of the United States. "The walls of isolationism are gone forever," he later declared in a Chicago address. When questioned concerning the selection of a new chairman for the Republican party, he answered: "I hope the Republican party will not choose an isolationist for national chairman." As a result of the Republican successes in the fall election, Mr. Stassen predicted there would be "unusually close collaboration" between the two major parties in a determined drive to win the war.

### CLAUDE A. WICKARD

Mr. Wickard's job as Secretary of Agriculture was a difficult one in 1942 for he tried to be a staunch friend of the farmer and at the same time co-operate with the President's price control program which was far from popular with the rural population. In January he asked that the price control bill give him a veto power over any farm commodity prices fixed by the Price Administrator. Although

the President sharply criticized the proposal and rebuked the Secretary for his stand, the suggestion became law. In the administration of this law the Secretary of Agriculture pledged his efforts to keep farm prices at parity instead of 110 per cent of parity which the Price Control Act permitted before price ceilings could be imposed. This stand so disturbed the Senate Agriculture Committee that Mr. Wickard was called upon "to explain" his farm price views in a closed session. The Secretary of Agriculture also appealed to consumers and farmers to support Administration leaders in their fight against the farm group's proposal which forbids the government to sell its surplus stocks of wheat, corn, and cotton at less than parity price levels. In August, Secretary Wickard claimed that "conditions have changed," and completely reversed the position he held in January. He proposed the repeal of the provision of the price control law prohibiting the establishment of farm price ceilings below 110 per cent of parity.

When the government program for the manufacture of synthetic rubber from petroleum products was initiated, Mr. Wickard joined with farm-minded lawmakers and declared that "use of parts of our reserve stocks of corn and wheat... offers the best possibility of greatly increasing our production of synthetic rubber as early as next year."

In his annual report, the Secretary of Agriculture outlined the wartime task of his Department "to provide food for freedom, without waste of land, labor or machinery." Throughout the year he described food and munitions as of equal importance in the defense program. He suggested that consideration be given to means of keeping the farms manned with enough workers to produce the crops so urgently needed at home and abroad. To relieve the shortage of farm workers he advocated before the National Catholic Rural Life Conference a great migration of farm families from marginal soil to land which can be worked more productively.



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On Dec. 5, food controls which were scattered through 11 Washington agencies were placed in Wickard's hands by an executive order which directed him to "assume full responsibility for and control over the nation's food program." As National Food Administrator, Wickard quickly declared that food had "equal priority" with military material and appealed to farmers to step up their production in order to produce the essential food for the nation and its allies. In an extraordinary broadcast to the American people Dec. 27, he outlined extensive food rationing plans to insure an equitable distribution on the home front while supplying the armed forces and our fighting allies. This advance notice of food rationing was widely deplored, and out of protest at least one resignation was submitted within Mr. Wickard's own department.

### HERBERT C. HOOVER

Ex-President Hoover, because of his rich experience as a high administrative official in the period of the First World War, had sage advice to offer his countrymen in 1942. For the effective prosecution of the war he asserted that President Roosevelt needed "dictatorial economic powers." To achieve a durable peace and a post-war world of justice, freedom and security, "...we must prepare for it as we must prepare for battle," he warned.

"America cannot be defeated in this war," Mr. Hoover confidently asserted soon after war was declared. When he urged that the chief executive be vested with greatest economic powers on May 21 he added: "There must be no hesitation in giving them to him and upholding him in them." At the same time he stressed the importance of retaining civil liberties and of being on guard against having "these Fascist economic measures" frozen into American life after the war. Discussing principles of civilian organization in modern war before the National Association of Manufacturers Dec. 3, Mr. Hoover asserted that civilian activities should be

headed by single administrators rather than boards and that all functions and authority in respect to principal activities be concentrated in the hands of one administrator. He reiterated a suggestion made earlier that the major administrators should constitute a war council to act with the President in determination of civilian policies.

One month after Pearl Harbor Mr. Hoover published *America's First Crusade*, which reviewers believed raised the ghost of the America First Committee. While he outlined in his book the failure of the Treaty of Versailles and the disillusionment which followed, he did acknowledge that the United States must sometime play its part in the establishment of lasting world peace. Speaking of the peace to come at the end of the present war, he declared on July 31: "Our sole purpose in this war is to achieve a durable peace." Americans should formulate the kind of peace they want and this must be done before the war ends, the ex-President believes; then instead of an armistice agreement there should be "an instant provisional peace agreement" to avoid an armistice period of demoralization and degeneration. He proposes that "after instant 'conditional peace' the world should take time to cool off and work out one by one and separately the solutions for lasting peace."

### PAUL V. McNUTT

Although Federal Security Administrator McNutt was called "Manpower Czar" after his appointment to the chairmanship of the War Manpower Commission in April, this title was misleading, for while possessing authority to make policy, he lacked power to carry it out. However, an executive order of Dec. 5 granted him virtually dictatorial powers over both Selective Service and civilian employment.

Mr. McNutt was the first high Washington official to proclaim the urgency of the manpower shortage. Speaking before the Travelers Aid Society in March he predicted large-scale family migrations that would

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dwarf the "Okie" movements of recent years and emphasized that modern war is no longer a conflict of armed troops but of whole nations, and the United States, too, must wage war on that total basis. With the limited powers he had during the first eight months in the manpower assignment, he worked out the voluntary freeze of Western miners and a similar plan for the Northwest lumber industry. He set up management-labor committees in cities where labor shortages were worst. While he tried to impress upon the Army and Navy the necessity of limiting enlistments to those who were not essential war workers, he was more successful in securing a manpower priority plan for government employees. Mr. McNutt espoused a National Service Act which was attacked not only by labor and management, but also by the Labor Management Policy Committee of his own Commission on the grounds of its being premature and undemocratic.

When the appointment of a manpower mobilizer with complete power became necessary, objection was raised to McNutt because his career in active politics created suspicion that he would use the position to further his political ambition—the Presidency in 1944. It was maintained that such huge powers and responsibilities ought to be exercised by a figure wholly outside the field of politics. Since President Roosevelt's plan to switch Harold L. Ickes, Secretary of the Interior, to the Labor Department and give him full charge of manpower did not mature because Mr. Ickes did not want the job, Mr. McNutt was the second choice. In his first press conference after his authority was enhanced, Mr. McNutt declared that the total population pool in which the needs of the armed forces, industry, agriculture, and essential civilian activities would be supplied.

### HARRY F. BYRD

Senator Byrd (Virginia), although a prominent member of the Demo-

cratic party, is recognized as one of the sharpest critics of the President. In 1942 the Virginian as chairman of the Joint Congressional Committee on Non-Defense Expenditures took the lead in the battle for economy. Comparing his Committee's recommendations with the executive budget, the Senator pointed out that the President had followed its suggestions closely but declared that still more reductions should have been made. He attacked the Farm Security Administration's "collective farms" and likened them to communist Russia in the debates on agricultural appropriations. Assailing the monthly increase of 100,000 in the number of Federal Civil Service employees, Senator Byrd called for dismissal of at least a third of these Federal employees to stop what he called a manpower waste "criminal" in wartime. Congressional action to force personnel reductions was necessary, he asserted, because "it is now very obvious that the administrative branches can not be depended upon to take the necessary measures to streamline our government to save manpower and promote efficiency." Not content with criticizing the executive branch, Senator Byrd demanded that Congress begin by cleaning its own house. He led the fight to repeal the law under which the members had voted pensions for themselves.

Before Pearl Harbor Senator Byrd was a well informed critic of the airplane policy of the Administration and after war was declared he consistently asserted that recognition of the growing importance of air power should lead to a reorganization of the Navy in which the air arm would be represented in the Bureau of Operations and be given a greater voice in regard to tactics and command. As a member of the Senate Naval Affairs Committee, he contended that "emphasis should be put on construction of aircraft carriers rather than battleships." Senator Byrd by his diligent committee work has shown how inspiring speeches can be usefully implemented by members of Congress.

# I. AMERICAN POLITICAL HISTORY

## THE YEAR IN CONGRESS

BY MABEL GIBBERD BENSON

AUTHOR AND PUBLICIST

### GENERAL

During 1942 the Seventy-seventh Congress was in session for 346 days, the longest session in our history with its two-year total of 715 working days. When the second session commenced, the party alignment was almost identical with that of 1941 since there were only one new senator and one new representative. The Republicans had, however, gained in the Senate by the change which brought their total to 29, the highest since 1934. There were 65 Democrats, one Progressive, and one Independent. In the House, the Democrats still had a majority of over 100 although by the end of the session this had been reduced to 93.

In major matters connected with foreign policy or military arrangements, however, no divisions on party or geographical lines occurred. Every important army and navy measure passed the House unanimously and the Senate without a record vote except the 'teen age draft bill, and even this bill, after amendment, received only 16 adverse votes.

Similar Congressional harmony did not extend to domestic policies, and one major focus of controversy from the convening of Congress on Jan. 6, 1942 to its adjournment on Dec. 16 was the issue of farm prices in relation to the price control aspects of the administration anti-inflation program outlined in April. The President at that time called for heavier taxes, ceilings on prices, wage stabilization, control of prices for agricultural products, extensive bond buying, rationing of scarce essential commodities, and curbs on installment buying.

The 1942 Revenue Act enormously increased the burden of taxation on all economic classes; the Federal Reserve Board early in May put stringent restrictions on installment buying; a successful campaign for the

selling of war bonds was carried out by the Treasury; wage stabilization was entrusted to the War Labor Board and, more recently, to the Board of Economic Stabilization. It is in the realm of rationing and price ceilings that, as will be discussed more fully below, the most intricate and most knotty problems have been encountered.

When the Seventy-seventh Congress closed its books several important measures were left as unfinished business, some of which will undoubtedly be revived by the Seventy-eighth Congress. Among these measures were the administration supported request for an additional \$5,000,000,000 authorization for the R.F.C. (a financial measure complicated by the dispute over authority between B.E.W. and the R.F.C. in relation to use of certain funds); the Third War Powers Bill conferring the sweeping executive powers over immigration, tariffs, and information requested by President Roosevelt; and a bill giving statutory authority for censorship of communications between the continental United States and its territories and possessions. Other bills, not administration-sponsored, which were shelved by the adjournment were a revision of the parity formula to include farm labor costs, a general rent control bill, a bill to authorize wire tapping by the F.B.I. in certain types of case, and a Western Union-Postal Telegraph merger approved by the Senate but not by the House.

### AGRICULTURE

Agriculture was the controversial core of much of the price control program discussed elsewhere in this article, but various other agricultural matters formed prominent parts of Congressional action during 1942.

The President in his budget message re-affirmed the principle of



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parity payments to farmers, but he did not ask for, nor did Congress include in the Department of Agriculture Appropriation Act, the \$212,000,000 allocated in previous years to this purpose. It was assumed that the rise in farm income resulting from the war would make this unnecessary.

Most other aspects of the farm program, although curtailed, were continued, although there was some effort to gear acreage control, soil conservation, etc. into the war economy by making them conducive to a desirably balanced increase in production. Congress appropriated \$22,500,000 for soil conservation, \$38,000,000 for rural rehabilitation, and authorized the borrowing of an additional \$97,500,000 from the R.F.C. for the same purpose. It authorized the borrowing of \$32,500,000 from the same agency for Farm Tenant Loans, and approved grants and outlays under the A.A.A. of \$450,000,000 for "conservation and use of agricultural land resources."

The Department of Agriculture Appropriation Act was delayed almost a full month after the end of the fiscal year because of the deadlock in conference over the floor price of surplus commodities sold by the Government. An amendment to the appropriation bill preventing sale of government grain below the parity price was defeated in the Senate in May. This represented the first farm bloc defeat in the 1942 Congress. The Senate then went on to accept an administration amendment which permitted sale of 125,000,000 bushels of government-held wheat at 85 per cent of the parity price of corn in order to provide cheaper livestock feed. The House was, however, determined to maintain parity standards, and a long deadlock resulted. Finally on July 15 the House by a record vote of 204 to 129 rejected the Senate amendment, but almost immediately reversed itself by a non-record vote and accepted the Senate version. Thus the appropriation act finally signed on July 22 affirms the principle of a parity floor but provides that it "shall not apply to the sale or other disposition of any

agricultural commodity to or by the Agricultural Marketing Administration for distribution exclusively for relief purposes, nor to grain which has substantially deteriorated in quality or is sold for the purpose of feeding or for the manufacture of ethyl alcohol, butyl alcohol, acetone, or rubber... provided that no grain shall be sold for feed at a price less than 85 per cent of the parity price of corn."

To cover the period between the end of fiscal 1942 and the passage of the new appropriation a special act was passed tentatively authorizing expenditures during July based on the projected 1943 appropriation "together with the senate amendments thereto to the extent the House of Representatives and the Senate have agreed," and otherwise based on the 1942 appropriation act.

The Emergency Farm Mortgage Act was extended to July 1, 1943, the Federal Surplus Commodities Corporation was extended to June 30, 1945, the application of A.A.A. orders and marketing agreements in relation to hops was extended to September 1945, and the time limit for cooperation between the Bureau of Reclamation and the Farm Security Administration in the development of farm units on public lands under the Federal Reclamation projects was extended through the fiscal year 1943.

The 3½ per cent interest rate on Federal Land Bank loans under the Federal Farm Loan Act was extended to July 1, 1944, and interest on certain loans under the Emergency Farm Mortgage Act of 1933 was again limited to 4 per cent and 3½ per cent.

### APPOINTMENTS

The year was characterized by an unusual number of significant appointments to newly created emergency agencies. Donald Nelson was made chairman of the new War Production Board on Jan. 15; Leon Henderson was appointed Price Administrator in February; Paul McNutt was named head of the War Manpower Commission in April and on Dec. 5 was made director of the

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reorganized Commission with its expanded jurisdiction over Selective Service as well as civilian manpower. On Sept. 15 William Jeffers was entrusted with charge of the coordinated rubber program; on Oct. 3 Associate Justice James F. Byrnes of the Supreme Court was made Director of Economic Stabilization; while on Dec. 6 Secretary of Agriculture Wickard was named Food Administrator. The outstanding resignation of the year was that of Leon Henderson as director of O.P.A. on Dec. 17.

### WAR AND OTHER APPROPRIATIONS

In his message to Congress on the state of the union President Roosevelt set as our goal an "overwhelming superiority" in munitions and ships, in planes, tanks, guns, every material

to provide for the fiscal year 1943. This brought the total Army, Navy, lend-lease, and other war appropriations to date for 1942 and 1943 to about \$180,000,000,000—the total war appropriations and authorizations since the beginning of the defense program in mid-1940 to \$222,500,000,000. A comparison with the expense of other wars in which this country has engaged is striking. The total expenditures of the most costly years of five of our six previous wars were as follows:

1814.....	\$ 34,720,926
1847.....	57,281,412
1865.....	1,297,555,224
1899.....	605,072,179
1919.....	18,522,894,705

The major, but by no means the total, war appropriations were carried in the following acts:

Jan. 30	War Dept. Supplemental (chiefly for air corps).....	\$12,500,000,000
Feb. 7	Naval Appropriation, 1942 and 1943.....	26,500,000,000
March 5	Fifth Supplemental—1942.....	32,800,000,000
April 29	Sixth Supplemental—1942.....	19,000,000,000
July 2	War Department Appropriation—1943.....	42,800,000,000

of warfare. He mentioned the production of 60,000 planes in 1942, 125,000 in 1943; of 45,000 tanks in 1942, 75,000 in 1943; of 20,000 anti-aircraft guns in 1942, 35,000 in 1943; of 8,000,000 tons of merchant ships in 1942, 10,000,000 in 1943. He referred to the 53,000,000,000 war program to be outlined in the 1943 budget—"more than half of the estimated national income." On Jan. 7 he submitted the budget totalling \$58,927,902,000 (exclusive of the \$100,000,000 debt retirement item) of which \$52,786,186,000 was connected with the war effort. The \$6,141,796,300 for normal government expenses (including \$1,750,000,000 interest on the public debt) was lower by \$500,000,000 than the similar expenses for fiscal 1942.

This budget, which in January seemed so enormous, did not begin to cover the developing needs. By the end of the year the 1942 Congress had appropriated more than \$147,000,000,000, about half of which was to supplement previous appropriations for the fiscal year 1942 and about half

Although several supplemental and deficiency appropriations for normal government activities for fiscal 1942 were necessary, 1943 appropriations for these activities represented a considerable decrease. Excluding interest on the public debt—obviously an item not subject to economy efforts—the total was almost \$1,500,000,000 lower than for 1942.\*

Legislative.....	\$ 27,620,287
Judiciary.....	12,445,900
Executive.....	3,714,632
Independent Offices.....	2,167,595,701
Agriculture.....	804,280,274
Commerce.....	68,459,410
Interior.....	178,919,257
Justice.....	61,987,100
Labor.....	21,817,227
State.....	26,727,000
Treasury.....	858,036,908
War (civil).....	285,219,310
Post Office.....	902,978,563
District of Columbia.....	56,306,031
	<hr/> \$5,476,107,600

\* Chief economies were effected through a \$600,000,000 cut in W.P.A. a \$400,000,000 reduction in Department of Agriculture programs (including \$212,000,000 for parity payments); and the abolition of the Civilian Conservation Corps which in 1941 cost over \$200,000,000.



### THE 'TEEN AGE DRAFT BILL

Numerous acts connected with the pay, benefits, drafting, and privileges of men in the armed services were passed during 1942. Undoubtedly the one which most engaged public attention and most aroused Congressional controversy was the 'teen age draft bill which had long been asked by the Army and sponsored by the Administration. The bill to make 18- and 19-year-old boys subject to the draft which finally became law on Nov. 13 had a stormy career. It was the only war measure which encountered strong opposition, although in the end it received an overwhelming majority. The House passed the bill on Oct. 17 by a vote of 345 to 16. The Senate, despite opposition by the Army and the Administration, adopted, 39 to 31, an amendment requiring a year's training in this country for 'teen age draftees. Further complications in that body resulted from attempts to add as a rider to the bill the prohibition of sale or possession of alcoholic beverages at or around army or navy posts. This rider was finally shelved, although not without difficulty, by reference to the hostile Military Affairs Committee for indefinite "study." The Senate then passed the bill, with its year's training amendment, by a vote of 58 to 5. In conference, however, the amendment was resolutely opposed by House conferees, and the Senate members gave way. Finally on Nov. 12, the Senate accepted the conference report without a record vote.

The act itself is merely an amendment to the Selective Training and Service Act of 1940 to include all men between 18 and 45. There is provision for deferment of youths until completion of their current school year, and the act also provides specifically for deferment of registrants "necessary to and regularly engaged in an agricultural occupation or endeavor essential to the war effort" until suitable replacements can be found. Conviction of crime does not relieve from liability for service unless the crime is punishable by more than one year of imprisonment or death.

### SERVICE PAY AND ALLOWANCES

Even longer than the House-Senate altercation over the above bill was its controversy over the increase in servicemen's base pay contained in the Pay Readjustment Act of 1942 which was finally signed on June 16. This act contains various provisions concerning officers' pay, retirement allowances, subsistence rates, transportation allowances, and other aspects of service reimbursements, but the argument centered over whether the base pay for privates should be \$42 or \$50 per month. The Senate bill, passed in that chamber 73-0 on March 30, provided \$42. On May 13 the House voted 332 to 28 to amend this to provide \$50, and then passed the amended bill 356 to 1. In conference the Senate figure was accepted, but the House was adamant, returning the bill to conference with insistence on its \$50 rate. Finally on June 8 the Senate voted 58 to 20 to instruct their conferees to accede to the House figure. The final conference report was then accepted unanimously by both houses.

Also in June was passed the Servicemen's Dependents Allowance Act of 1942 which provides dependency allowances for enlisted men in all the services. Dependents are divided into two classes: Class A includes wives and children; Class B includes parents, grandparents, brothers, sisters, etc. The servicemen's contribution is \$22 a month deducted from the base pay; \$27 a month if dependents of both classes are included. The contribution is compulsory in the case of Class A dependents, optional in the case of Class B. The Government contributes \$28 a month for a wife, \$40 a month for a wife and one child, \$10 a month for each additional child; if the man has children but no wife the government allowance is \$20 for one child and \$10 for each additional; if the man has been divorced and the former wife is entitled to officially granted alimony, the Government contributes \$20. In cases involving Class B dependents, the Government allows \$15 a month for one parent; \$25 a month for two; and

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\$5 a month for other dependents, but the total can not exceed \$50.

This act included a provision which caused considerable public interest at the time, although in view of the revised army program it now seems irrelevant. "The President is also authorized, under such rules and regulations as he may prescribe, to provide for the deferment from training and service under this Act in the land and naval forces . . . of any or all categories of those men who have wives or children, or wives and children, with whom they maintain a bona fide family relationship in their homes." The principle of exempting married men has, of course, been abandoned, and it seems clear that to build an army of 7,500,000 or more it will be necessary to draft men with families.

### SERVICE RELIEF AND INSURANCE

The Soldiers and Sailors Civil Relief Act of 1940 was broadened in several ways, chiefly by increasing from \$5,000 to \$10,000 the amount of private insurance on which the government guarantees premiums, by extending the moratorium on debts contracted by servicemen to all those incurred before induction, by forbidding the increase in interest rates to a figure above 6 per cent on obligations during the duration of service, by liberalizing debt payment provisions, and by extending coverage under the act to American citizens serving in Allied forces.

Another act automatically raises to \$5,000 the life insurance coverage under the National Service Life Insurance Act of 1940 to any one totally disabled in line of duty, captured or besieged by the enemy, with waiver of premiums until after recovery or release, while still another made the National Service Life Insurance Act retroactive to Oct. 8, 1940 to cover army and navy flying cadets or aviation students killed between that date and the formal approval of the act on June 3, 1941.

In general the continuance of pay, pay to dependents, and insurance pro-

tection was guaranteed for one year to those in active service officially reported missing, missing in action, interned in neutral countries, or captured by the enemy.

### OTHER SERVICE LEGISLATION

Other acts permitted free use of mails by servicemen, liberalized considerably the naturalization procedure for aliens serving honorably in the United States armed forces, entitled Federal employees entering service to accumulated annual leave pay, increased the base rate of pay in the Army for overseas service, and compensation in the Navy for submarine, diving, or salvage work.

The detailing of not over 2 per cent of officers and men in the Army of the United States as students at technical, professional, or advanced educational institutions, and as students, observers, or investigators at industrial plants, hospitals, etc. was authorized.

In order to expedite the supply of trained officers the President was empowered to reduce the course for graduation at West Point from four to three years. Another act, not directly related to the war effort, concerned West Point and Annapolis training. This increased the authorized number of cadets and midshipmen each to 40. The additional appointees were to be selected from the United States at large by the President from among sons of officers, soldiers, sailors, marines, and members (female) of the Army and Navy Nurse Corps who had been killed in action or died as the result of wounds, injury, or disease incurred during the First World War.

### ABSENTEE VOTING

The Servicemen's Absentee Voting Act, signed Sept. 16, which contains regulations for absentee voting in Federal elections by all men and women in the armed services aroused controversy solely because it raised the issue of poll taxes, always a delicate point with Congressmen from the eight southern states which possess this requirement for voting. The

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bill, which originated in the House, was amended in the Senate to eliminate specifically the payment of any poll tax as a requirement for voting under this act. The Senate amendment was accepted by the House after considerable opposition, and the bill was passed, but the poll tax issue did not die. Anti-poll-tax enthusiasts in the House proceeded to frame a bill which forbade any state to require payment of poll taxes in connection with Federal elections and the bill was overwhelmingly accepted, 254 to 84. It was killed in the Senate, however, by a nine-day southern filibuster and by the defeat of a petition to invoke the cloture rule.

### THE ARMY

An act signed on June 5 suspended all limitations on "the strength of any branch of the Army, the number of aviation cadets in the Army Air Corps, the number of assistant superintendents of the Army Nurse Corps, the number and grade of reserve officers who may be ordered to extended active duty and the number of officers of the army who may be required to participate regularly and frequently in aerial flights." It also suspends "all existing limitations with respect to the number of serviceable airplanes, airships, and free and captive balloons that may be equipped and maintained."

### FOREIGN RELATIONS

Although not a matter of Congressional action the joint pledge of the 26 nations made public on Jan. 2, 1942 deserves notice as a significant part of our foreign relations. The United States, Great Britain, Russia, China, and 22 other countries committed themselves to a policy of "no separate peace," and reaffirmed formally their support of the eight-point peace aims outlined in the Atlantic Charter, including self-determination of nations, free international trade, international cooperation to improve labor and social standards, freedom of the seas, and the abandonment of force. On Jan. 15 the inter-American conference designed to facilitate Western

Hemisphere cooperation during the war opened at Rio de Janeiro.

By unanimous vote of the House on June 3 and of the Senate on June 4, war was declared on Bulgaria, Hungary, and Rumania—all of which had previously declared war on the United States. Thus by mid-year we were formally at war with six nations.

On February 7 the President signed an act which authorized a loan of \$500,000,000 to China, and on Feb. 12 the sum was appropriated.

By presidential request one of the few remaining provisions of the Neutrality Act which remained in force after the first session of the Seventy-seventh Congress—the prohibition of loans or credits to belligerents by citizens of the United States—was suspended for the duration of the war by a resolution approved on Feb. 21.

Early in the session the Foreign Agents Registration Act of 1938 was amplified and made more rigorous, but President Roosevelt vetoed these amendments on the ground that they might impede friendly relations with representatives of the United Nations. In April a new set of amendments was passed which liberalized provisions in connection with persons employed by allied countries, but made even more specific the requirements for registration of agents and labelling of propaganda coming from other foreign nations. In addition, administration of the act was transferred from the Department of State to the Department of Justice.

The amount of lend-lease aid which could be given to the United Nations, either through direct appropriation or through authorized transfers of equipment and material, reached \$66,000,000,000 during 1942.

### GOVERNMENT FINANCE

The authorized outstanding obligations of the R.F.C. were increased by another \$2,500,000,000 in March and again by \$5,000,000,000 in June. Financing of the War Damage Corporation by R.F.C. issues up to \$1,000,000,000 was approved.

The Federal Reserve Act was amended to provide that the Federal



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Reserve Board by vote of four members of the Board of Governors "in order to prevent injurious credit expansion or contraction may by regulation change the requirements as to reserves to be maintained against demand or time deposits" within certain limits: the amount not to be less than required by law by any bank when the Banking Act of 1935 was passed nor more than twice that amount.

The Second War Powers Act authorized the Federal Reserve Banks to purchase directly from the Treasury government obligations and government-guaranteed obligations, not in excess of \$5,000,000,000, in order to provide a means of controlling disturbances in the money market which might result from war financing.

### HOUSING

On Jan. 21, 1942, the President signed a defense housing bill which, although passed by both houses in 1941, had been in conference a month. This act increased the authorization for defense housing from \$300,000,000 to \$600,000,000, and that for community facilities in defense areas from \$150,000,000 to \$300,000,000. A bill further raising the housing authorization to \$1,200,000,000 became law on Oct. 1. A special District of Columbia bill included the District within the jurisdiction of the Defense Housing Act and authorized the use of \$30,000,000 for defense housing and \$20,000,000 for additional public works and equipment made necessary in and around the District by the war.

The National Housing Act was extended to July 1, 1943, the funds increased from \$300,000,000 to \$800,000,000, the unit maxima raised for various types of housing, the insurance coverage provisions extended to war housing, and the Housing Administrator empowered to secure priority for war workers in new property insured under the act.

### THE NAVY

Early in January 1942 the authorized enlisted strength of the Navy

was increased from 300,000 to 500,000, and that of the Marine Corps during the emergency to 104,000.

The construction of 1799 "minor combatant, auxiliary, and patrol vessels" of various types was authorized in February and the Naval Appropriation Act for 1942 and 1943 appropriated over \$7,000,000,000 for increase and replacement of naval vessels.

In April the Navy was authorized to undertake an \$800,000,000 program for expanding shore facilities for the fleet and the naval air force: fields, storage centers, training centers, hospitals, dry docks, and research plants. In August, expenditure of an additional \$974,634,000 for these purposes was approved.

By July still further expansion was authorized. An act signed July 9 approved the construction of an additional 1,200,000 tons of "auxiliary vessels of such size, type, and design" as the President deems best suited for purposes of national defense, while another act signed on the same day authorized construction of 800 small vessels suitable for coast defense, patrol duty, mine-sweeping, etc. and, in addition, the acquisition or conversion of 200 more small vessels for the same purposes. The most important part of the second act, however, was of course the authorized increase by 1,900,000 tons of the combatant strength of the Navy at an estimated cost of \$8,500,000,000. This increase raised the authorized strength of the Navy to 5,649,480 tons, the largest in the world. Increases for certain classes of vessels were specified—500,000 tons of aircraft carriers, 500,000 tons of cruisers, 900,000 tons of destroyers and destroyer escort vessels, but permission was given to vary these tonnages by 30 per cent within any class so as to increase the strength of the other classes or of the submarine force.

In the various appropriation acts the naval air force was given more than \$10,000,000,000 for planes, plants, fields, training, etc.

### PAY AND PENSIONS

The Civil Service Retirement Act

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of 1941 had included Congressmen under the Federal retirement system. Apparently there had been little recognition of the political dynamite involved in this action for the issue had not aroused debate in Congress. However, public opposition had been considerable, and in February 1942 the Senate put the repeal of Congressional pensions as a rider on another bill. The rider was approved in the Senate 75 to 5, in the House 389 to 7.

Various changes were made in the Civil Service Retirement Act: the payroll deduction was increased to 5 per cent, provision for refunds made where payments were for less than five years, a scale of benefits worked out for those participating for more than five years but subsequently leaving government service. The President was empowered to exclude temporary employees from coverage. Retirement at 70 was made compulsory, voluntary at 60 or after 15 years of service.

The Civil Service Classification Act of 1923 was amended to increase the salary rates for Grades 1 and 2 of sub-professional service, to re-define "crafts, protective, and custodial service," and to regrade certain types of work.

Late in the session Congress passed a temporary wartime pay adjustment bill covering almost all Federal employees. The act, retroactive to Dec. 1, 1942 and running until April 30, 1943, provides overtime pay for employees on a per annum salary. Overtime is to be computed at approximately time and a half on a 360-day-work-year basis for work in excess of 40 hours a week for employees earning up to \$2,900. Those whose income exceeds this figure will be paid for overtime at the \$2,900 figure rate, but no additional pay under the act is authorized which runs the total income over \$5,000. It is estimated that the salary increases will amount to approximately 10 per cent for those working on a 44-hour week, approximately 20 per cent for those working on a 48-hour week. There was some hope that under the revised schedule it would be possible to reduce the

staffs of some agencies and to transfer workers to others now understaffed.

Certain amendments were made to the Railroad Retirement Act, including the liberalization of credit for military service.

World War veteran pensions were increased from \$30 to \$40 a month.

### PRICE CONTROL

It will be remembered that among the unfinished business of the first session of the Seventy-seventh Congress was the administration-fostered program of price control. The Office of Price Administration created in the spring of 1941 had proved fairly successful in controlling price rises on basic defense materials by means of voluntary agreements among the industries, but consumer goods, particularly foods, continued to rise at an alarming rate. By the end of 1941 basic foodstuffs were 61 per cent higher than in pre-emergency days and retail prices averaged 19 per cent higher, with, of course, many items exceeding the average increase. The President in July 1941 issued a special message to Congress on this critical issue, but during the ensuing months, while inflation rapidly became a reality, that body wrangled lengthily over the form of price control legislation. Finally on Nov. 28 the House passed a bill which amounted, politically, to an administration defeat, and which amounted, practically, to an emasculation of the whole program of controlling consumer goods prices.

Over the Administrator and empowered to over-rule any and all of his decisions the bill placed a five-man board of review. Rent control was limited to a small number of defense areas. The farm-bloc-dictated alternatives for determining ceiling prices on agricultural products made 110 per cent of parity the minimum ceiling while through alternative computations the ceilings might reach 200 per cent or 300 per cent of 1941 prices. No licensing of businesses as a control mechanism was included. Finally the provision concerning gov-



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ernment purchase and sale of commodities was not calculated to stabilize prices.

This bill was before the Senate when it met in January 1942. That body considerably modified the House version and the final compromise conference report was adopted by the House, 289 to 114, on Jan. 26 and by the Senate, 65 to 14, on Jan. 27. The goals of the act were inclusive: "to stabilize prices and to prevent speculative, unwarranted, and abnormal increases in prices and rents; to eliminate and prevent profiteering, hoarding, manipulation, speculation, and other disruptive practices resulting from abnormal market conditions or scarcities caused by or contributing to the national emergency; to assure that defense appropriations are not dissipated by excessive prices; to protect persons with relatively fixed and limited incomes, consumers, wage earners, investors, and persons dependent on life insurance, annuities, and pensions, from undue impairment of their standard of living . . . to assist in securing adequate production of commodities and facilities; to prevent a post emergency collapse of values; to stabilize agricultural prices."

Although it soon became apparent that the act was an inadequate mechanism for the achievement of all these worthy objects, the final form was at least a marked improvement over some of the preliminary versions. The House-sponsored Board of Review was dropped as was the Senate-sponsored wage parity amendment which, by revising the parity formula to include farm labor costs would have raised ceilings to about 120 per cent of existing parity. The final bill included the House-opposed power to license businesses as an instrument of price control. The act empowers the Administrator to set maximum prices on commodities subject to the limitation that no ceiling on an agricultural product shall be below the highest of the following: (1) 110 per cent of parity; (2) market price of Oct. 1, 1941; (3) market price of Dec. 15, 1941; (4) average

price during period July 1, 1919 to June 30, 1929. Moreover, maximum prices set on any "commodity processed or manufactured in whole or substantial part from any agricultural commodity" must be such as to reflect to the producer of the agricultural commodity a return equal to the highest of these figures. The Administrator is empowered to buy, sell, or store commodities of which there is a threatened shortage in order to achieve necessary production or, where necessary, to subsidize domestic producers, but he is not empowered to sell or dispose of agricultural products at a price below the figures set for the market ceilings.

The Administrator's action in connection with farm product ceilings was further restricted by the specific requirement that he take no action in these cases without prior approval of the Secretary of Agriculture. The act permitted the Administrator to set maximum rents in defense areas where effective stabilization had not been voluntarily achieved, and suggested as a standard the rent as of April 1, 1941 but prohibited the use of any standard date earlier than April, 1940.

Largely because one of the largest items in the average budget—food—could not be adequately controlled under the act, the cost of living was only spottily stabilized. Labor leaders urged in defense of wage raises the undoubted rise in living costs. Middlemen complained of being "squeezed" between producer and O.P.A. The farmers, embittered by their problems in getting farm labor, enormously complicated both by the draft and by high industrial wages and almost unlimited employment opportunities, pressed for an upward revision of the parity formula. Anti-inflation measures were lauded in the abstract but no one group was willing to share in the sacrifices. Finally in his Labor Day speech President Roosevelt called for effective Congressional action and set a deadline of Oct. 1, at which time, he said, he would act by executive decree in default of proper enabling legislation.

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Certain aspects of this speech, however, further antagonized the farm interests. Mr. Roosevelt did not ask for legislation controlling wages, but indicated his intention of handling the labor problem through regulation by executive agencies.

In July the War Labor Board in its decision on the Little Steel case had established the principle in wage stabilization of granting increases equivalent to the rise in living costs between Jan. 1, 1941 and May 1942—approximately 15 per cent. Actually there were indications that further increases, not entirely within this formula, were taking place, and the farmers felt that they were the objects of unfair discrimination both in the official formula and in the extra-official deviations from it. Another campaign was launched to revise the parity formula to include farm labor costs. The second price control bill—the Emergency Anti-Inflation bill—as passed by the House on Sept. 23 by a vote of 205 to 172 included this revision. The Senate on Sept. 29 also approved this revision 48 to 43, but it reversed itself on the following day by a vote of 86 to 4. The final bill approved on Oct. 2 “authorized and directed” the President “on or before November 1” to issue a general order stabilizing wages, prices, and salaries affecting the cost of living. It was suggested that the standard be taken as the figures prevailing on Sept. 15, 1942, but discretion was given to vary this standard in the interests of equity or of the war effort. The provisions in connection with agricultural prices were revised so as to guarantee either (1) parity or (2) the highest price prevailing between Jan. 1, 1942 and Sept. 15, 1942.

In place of the revised parity formula the act included a somewhat ambiguous statement that modifications in the agricultural ceilings “shall be made” in “any case where it appears that such modification is necessary to increase the production of such commodity for war purposes, or where by reason of increased labor or other costs to the producers of such agricultural commodity incurred since

January 1941, the maximum prices so established will not reflect such increased costs.” Counterbalancing for the farm interests the reduction of the formula from 110 per cent to 100 per cent of parity was the inclusion of a two-year floor under basic farm prices in the post-war period. The Commodity Credit Corporation is “authorized and directed” to make available upon any crop of cotton, corn, wheat, rice, tobacco, or peanuts, harvested after Dec. 31, 1941 and before the end of a two-year period following the cessation of war (if producers have not disapproved marketing quotas for the commodity for that harvest year) loans to cooperators at the rate of 90 per cent of parity for that year, and to non-cooperators at the rate of 60 per cent of parity on the excess above the quota.

A standard for wage and salary stabilization was set at the highest figure during the period between Jan. 1, and Sept. 15, 1942, but the President was given discretionary power to adjust the wages where such adjustment was desirable in order to “correct gross inequities and also aid in the effective prosecution of the war.” An important enforcement weapon was included in the provision that “the President shall also prescribe the extent to which any wage or salary payment made in contravention of such regulations shall be disregarded by the executive departments and other governmental agencies in determining the costs or expenses of any employer for the purposes of any other law or regulation.” Refusal to admit such increased wages or salaries as legitimate business expenses in computing corporate income, for instance, could be a check on voluntarily granted wage increases.

At the end of the session another attempt to include farm labor costs in a revised parity formula had been approved by the House, but the Senate had not acted when adjournment took place.

### PUBLIC WORKS

**Curtailed Program.**—The public works program of some \$578,000,000

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outlined by the President in his budget represented a sharp decrease in this type of activity, and in his words included only "those projects necessary for increasing production of hydroelectric power, for flood control, and for river and harbor work related to military needs. Federal aid for highways will be expended only for construction essential for strategic purposes."

**Pipe Lines.**—A bill which finally became law on July 23 authorized construction of one or more pipe lines between the Gulf and Atlantic shores of Florida and from Yazoo, Miss. to Charleston and/or Savannah for the transport of petroleum and its products. In view of the critical gasoline and fuel oil situation on the east coast this part of the bill met with little opposition, but there was also included an authorization for a \$93,000,000 navigable barge canal across Florida from the St. Johns River to the Gulf. This Florida ship canal has long been a matter of controversy. Construction of it was started in 1935 with relief funds, but Congress subsequently refused to authorize the project and work was halted. During the present Congress efforts were made in both houses to eliminate approval of the canal from the pipeline bill, but they were defeated in the House by a vote of 205 to 134 and in the Senate by a vote of 31 to 30. The 30-30 tie in the latter body was broken by the Vice President's casting vote.

**Highways.**—The amount of money available for Defense Highway grants was increased from \$150,000,000 to \$260,000,000, and Puerto Rico and Hawaii were included among the places of military importance to be served by the "strategic network of highways" approved in 1941. Seven million dollars was appropriated for surveys and other expenses in connection with construction of the Inter-American Highway approved December 1941. It might also be noted that 1942 saw the completion of the Alaska highway.

**T.V.A. Expansion.**—The supplemental 1942 appropriation act ap-

proved Jan. 3, 1942 carried an additional \$30,000,000 for T.V.A. expansion, chiefly for the construction of the Douglas Dam to provide new sources of hydroelectric power for war production.

**W. P. A.**—Although admitting that W. P. A. could be sharply curtailed for the ensuing year because of war time re-employment opportunities, the President in his Budget Message still believed some form of work relief program essential, and he requested some \$480,000,000 for various types of government projects in this class. Congress in the Emergency Relief Appropriation Act signed on July 2 extended the life of W. P. A. to June 30, 1943, but appropriated only \$280,000,000 for its activities. Finally on Dec. 4 the President abolished the agency by executive decree, announcing the adequacy of the emergency employment situation to solve the unemployment problem.

**C.C.C.**—The controversy over the abolition of the Civilian Conservation Corps, although not strictly related to "public works," might be mentioned here. House and Senate clashed sharply on this issue. The Labor-Federal Security Agency Appropriation bill which was sent from the House to the Senate carried no funds for the continuation of the C.C.C. By a close vote the Senate amended the bill to appropriate \$76,000,000 for the maintenance of 350 camps during 1943. The tie of 32-32 was broken by the Vice President's use of his casting vote. However, on June 30, the House remained firm, rejecting 230 to 120 the Senate amendment. As the fiscal year deadline approached, the Senate yielded, and the C.C.C. came to an end by default.

### REVENUE

In his budget message President Roosevelt estimated 1943 revenue at \$17,852,090,000. Even upon the basis of the contemplated increases in taxation, the deficit was then estimated at \$35,500,000,000 with a consequent rise in the public debt to over \$100,000,000,000. Later upward revisions



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of the total budget for fiscal 1943 to a figure of \$80,000,000,000 and downward revisions of the estimated income under the 1942 Revenue Act made it seem likely that by June 1943 the deficit would be close to \$60,000,000,000 and the public debt close to \$180,000,000,000.

It was apparent that several rigorous measures for government financing were essential at once. Obviously the \$65,000,000,000 debt limit voted in 1941 was completely obsolete, and in March 1942 Congress raised the figure to \$125,000,000,000. By June 30 the national debt was over \$76,500,000,000, and there is every indication that the 1943 Congress will be forced to raise the limit again very promptly.

When presenting his budget the President asked for \$7,000,000,000 in additional taxes during fiscal 1943. He also recommended an expansion of the social security payroll taxes—only, however, if accompanied by expanded coverage and benefits—which would bring in a further \$2,000,000,000 to the Federal Treasury. Not only did Congress not expand the payroll taxes or social security programs, but at the last minute before passing the tax bill it cancelled the automatic increase in social security taxes scheduled to go into effect on Jan. 1, 1943, postponing the raise until 1944.

### TAXATION

The major provisions of the Revenue Act of 1942 approved on Oct. 21 fall under five general headings:

**Personal Income Tax.**—The President's request for a tax program combining progressive features with anti-inflationary features was met by the new provisions which both broadened the base and sharpened the rate of increase in connection with personal income taxes. Personal exemptions were lowered from \$750 to \$500 for single persons and from \$1,500 to \$1,200 for married persons (except in the case of military or naval personnel below the commissioned grade when the old exemption figures remain in force). Exemption for dependents was reduced from \$400 to

\$350. The normal tax was raised from 4 per cent to 6 per cent, while the beginning surtax rate, applicable to the first dollar of taxable income, was increased from 6 per cent to 13 per cent. Surtaxes at the \$8,000 income level are 28 per cent, at the \$20,000 level 49 per cent, and at \$200,000 reach their 82 per cent maximum. The former maximum was 77 per cent and did not apply to incomes below \$5,000,000. As in the previous Revenue Act, Congress provided for a simplified table usable by those with a gross income under \$3,000. Congress again refused to make joint husband and wife returns mandatory. United States government bonds issued after March 1, 1941 are not tax exempt. There were, however, two liberalizing provisions included in the new act. Deductions up to 5 per cent of the net income for extraordinary medical expenses were permitted, with the limitation to \$2,500 deduction for the head of a family. The regulations concerning income from capital gains were changed to reduce the periods from three to two: gains were taxable 100 per cent if made on assets held less than six months, 50 per cent if made on assets held for any period over six months.

**Victory Tax.**—The special Victory tax is, of course, a form of income tax but is computed on a separate basis. It is a temporary 5 per cent tax for the duration of the emergency on all income in excess of \$624 a year, to be deducted in most cases at the source. However, a current credit up to 25 per cent of the tax (or \$500) for single persons and of 40 per cent (or \$1,000) for heads of families plus 2 per cent (or \$100) for each additional dependent is permitted for life insurance premiums or United States war bond purchases. If the credit is not taken currently it may be taken as a post-war credit on due income tax or as a refund.

**Corporation Income Tax.**—The normal tax of 15 per cent to 19 per cent for corporations earning less than \$25,000 annually and of 24 per cent for corporations earning more than that remained unchanged. Sur-

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tax rates were raised to 10 per cent for corporations whose surtax net incomes do not exceed \$25,000; \$2,500 plus 22 per cent of the amount over \$25,000 for those whose incomes fall between \$25,000 and \$50,000; and 16 per cent for those whose incomes exceed \$50,000.

**Excess Profits Tax.**—A flat 90 per cent of excess profit took the place of the former rate ranging from 35 to 60 per cent of excess. However, the act provided for post-war credits equal to 10 per cent of the tax imposed each year. Moreover, the excess profits tax was made subject to considerable modification in connection with corporations dealing with so-called "depletable resources" and with the production of strategic minerals.

**Excises.**—Considerable increases were made in excise taxes on distilled spirits, beer, tobacco, telegraph, cable and telephone service, travel tickets, and various other commodities. A new tax of 3 per cent on the transportation of freight was imposed.

### TRANSPORTATION AND COMMUNICATION

In January the President was given emergency control over wire communications, including power to close or take over stations for government use when such action was for the national good.

Also in January Congress gave permission for Canadian vessels to transport iron ore between American ports on the Great Lakes during 1942, and in August this permission was extended for the duration of the war and for six months thereafter.

The power of the Interstate Commerce Commission over motor carriers was considerably extended, including the power to require joint use of equipment, materials, terminals, etc., and all "freight forwarders"—that is, any person or company publicly transporting property and not within the class of rail, water, or other transportation already covered by the Interstate Commerce Act—were brought within the Commission's regulatory jurisdiction.

The Civil Aeronautics Authority

was authorized to train aircraft technicians and mechanics in addition to the pilot training authorized in 1939.

By the end of the year transportation of workers, especially in defense areas, was a serious problem, and an act was approved on Dec. 1 which empowered the Secretary of Navy, the Secretary of War, or the Chairman of the Maritime Commission, when the O.D.T. had determined the inadequacy of existing transportation for workers in those departments or workers engaged in production of war materials ordered by those departments, to provide transportation. Equipment can be either leased, bought, or chartered, and can be operated either by government employees or by private personnel under contract. Use of ordinary departmental appropriations for this use was permitted.

### WAR INSURANCE

The war risk insurance program of the Maritime Commission was expanded by an act of April 11, and in June an additional \$210,000,000 was appropriated for the fund.

On Dec. 2 the President signed a bill which considerably extended workmen's compensation benefits for death or injury resulting from "war risks." The act covers all injuries, including capture by the enemy as "total disability," arising from war risks where workers are engaged on contracts, post duty, etc. outside the United States whether or not the injury was received while the victim was actually at work. Exception is made in cases where the area of work is the legal residence of the worker, for them the coverage extends only to injuries incurred while actually on duty. However, the benefits under the act are not payable if the persons or survivors are entitled to benefits under some other United States law or, if the victim is a foreigner, under the law of his own country.

### WAR MATERIALS

**Shipping.**—The battle of production swung into wartime stride during 1942 with an output of \$47,000,000,000 of munitions. Although the



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President's forecast in his Congressional message was not quite fulfilled the figures were impressive: 49,000 planes, 32,000 tanks and self-propelled artillery, 8,200,000 tons of merchant shipping and war vessels. By May the United States was launching two vessels a day.

**Allocation.**—Congress passed several important acts to expedite the production and control of essential materials. In the Second War Powers Act of 1942, signed on March 27, although chief attention was given to Army, Navy, and lend lease priorities, the stricter control involved in the system of allocation later adopted by the government was authorized. The act provided that "whenever the President is satisfied that the fulfillment of requirements for the defense of the United States will result in a shortage in the supply of any material or of any facilities for defense or for private account or for export, the President may allocate such material or facilities in such manner, upon such conditions, and to such extent as he shall deem necessary or appropriate in the public interest and to promote the national defense."

**Requisition.**—A provision in the 1941 requisition authorization which forbade requisition for war use of machinery actually in operating use was repealed, and later the President's power to requisition machinery, tools, supplies, etc. necessary for national defense or the prosecution of the war and intended for export was extended to June 30, 1944.

**Import Taxes on Metals.**—In March all duties or import taxes on "scrap iron, scrap steel, relaying and rerolling rails, or nonferrous metal scrap" entering the country between March, 1942 and the end of the emergency were suspended.

**Royalties on Inventions.**—Broad powers to limit royalties on inventions manufactured, sold, or used under license from the owner by or for the United States in the prosecution of the war were given to government agencies, subject only to controls through regular suits in the United States Court of Claims.

**Small Business Mobilization.**—An act unanimously passed by both houses, the compromise conference version of which was approved in June, empowered the chairman of the War Production Board to appoint a deputy whose work would be to "mobilize aggressively the productive capacity of all small business concerns" and to promote through cooperation with other government agencies the efficient and effective utilization of small businesses in the production of war materials and in the revised pattern of civilian production. All government agencies were authorized to place contracts with small plants where these had been accredited by the W.P.B. even if the costs per unit were somewhat higher than in larger plants. The act further authorized the creation of a Smaller War Plants Corporation, capitalized at \$150,000,000 to be managed by five directors appointed by the chairman of the W.P.B. The Corporation was empowered to lend money for conversion to war work, expansion, equipment, etc. of small businesses in order to expedite their integration with the war production program. It was given authority to buy and sell land, plants, machinery, etc. to facilitate this goal, and to enter into contracts with other government agencies for the purpose of facilitating the sub-contracting of orders to small businesses. The act also permitted the waiver of anti-trust laws where action, otherwise a violation of such laws, was deemed by the W.P.B. requisite to war production and was approved by the Attorney General.

**Gas Rationing.**—Although gasoline rationing in the 17 eastern states and the District of Columbia was related to an actual shortage of this commodity caused by transportation difficulties, the country-wide problem in connection with driving-as-usual was one of the national rubber supply. The shortage of rubber had long been considered critical by military and supply experts in the Federal Government, but action on nationwide gas rationing was postponed until after the publication of the Baruch-

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Compton-Conant report on Sept. 10 and the appointment of William Jeffers on Sept. 15 as head of the nation's rubber program. The order finally went into effect on Dec. 1.

**Rubber.**—The synthetic rubber act sponsored by the farm bloc which provided for a Rubber Supply Agency independent of the W.P.B. to promote production of rubber from agricultural commodities was vetoed by the President in August on the grounds that it would hamper W.P.B.'s unified control of critical materials, create an unnecessary diversion of men and materials, and possibly use up grain supplies which might later be needed for other purposes. It was after vetoing this act that Mr. Roosevelt appointed the Baruch Commission to make a definitive investigation of the whole rubber situation.

In March Congress had authorized the Secretary of Agriculture to secure rights, patents, data, equipment, etc. from the Intercontinental Rubber Company in connection with production of rubber from guayule, a project with which this company had long been experimenting. He was also empowered to secure land and to plant 75,000 acres of guayule, and to construct or operate the necessary extracting plants. In addition, these powers were also extended to apply to any other rubber-bearing plant. In July the second Deficiency Appropriation Act carried \$8,235,000 for this purpose. On Oct. 20, after publication of the Baruch report, this act was amended to increase the authorized acreage to 500,000, to permit acquisition of water rights, administrative sites, etc., and the Second Supplemental National Defense Appropriation Act of 1943 granted (Oct. 26) an additional \$19,000,000 for the project.

**Minerals.**—The Interior Department Appropriation Act allocated \$11,500,000 to the Bureau of Mines for investigation and experimentation connected with development of mineral resources and the processing and treatment of strategic minerals.

**Limitation of Profits.**—Although attempts to set rigid limits on war contract profits were defeated, re-

negotiation of war contracts in order to recover "excessive profits" was authorized in the Sixth Supplemental National Defense Appropriation Act passed in April, and the provisions for such re-negotiation were amplified in the Revenue Act. Savings for the Government of over \$2,000,000,000 were already reported by the end of the year as the result of this power.

### WOMEN AND THE WAR

**Waacs.**—The first of the women's auxiliary organizations to be created was the WAACS—the Women's Army Auxiliary Corps—which, after considerable opposition, was approved by the House on March 27 and by the Senate on May 12. The act authorized the formation of a voluntary corps of women between the ages of 21 and 45 to take over various non-combatant duties connected with the army in order to free men for active service. The total number in the corps was limited to 150,000. Pay was originally set at the then army base rate of \$21 and \$30 per month for plain auxiliaries, and the organization was to be composed of auxiliaries—comparable to army privates—and three grades of officers, all under a director responsible to the Army Chief of Staff. In October the act was amended to provide pay scale and allowances similar to those in the regular army grades, and various parts of the earlier act were amplified and made more specific.

**Waves.**—On July 30 the WAVES—a naval women's auxiliary—was authorized "to expedite the war effort by releasing officers and men for duty at sea" through use of women in the shore establishment of the navy. Duty is confined to the continental United States.

**Spars.**—On Nov. 23 the President signed an act creating the Women's Reserve of the Coast Guard Reserve—the SPARS—in order to release men in that service for duty at sea. The act specifically provides that the Spars shall not be assigned to duty on board vessels of the navy or coast guard, on combat aircraft, or anywhere outside the continental United

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States. Like the Waacs, both the Waves and Spars are composed entirely of volunteers, but the age minimum for the latter two organizations is 20. Apparently Congressional opposition to feminine auxiliaries was worked out in the WAAC controversy since neither of the subsequent acts encountered any obstacles.

### MISCELLANEOUS

**Daylight Saving.**—On Jan. 20, 1942 nationwide daylight saving was authorized for the duration of the emergency, and on Feb. 9 clocks throughout the country were set ahead one hour.

**Local Defense Funds.**—The Office of Civilian Defense was authorized to use \$100,000,000 to supplement local civilian defense funds when necessary in the interests of public safety, but was prohibited from interference with local autonomy in matters of local concern.

**Meteorology Scholarships.**—The Secretary of Commerce was empowered to grant, during the continuance of the war, 50 scholarships for instruction in accredited graduate courses in meteorological science upon condition that the recipients upon completion of training enter the Federal or military service as meteorologists.

**Political Activities.**—In October the

Hatch Act was amended to exclude officers or employees of educational or research institutions supported in whole or part by Federal funds from the provisions of the act, thus permitting teachers and other school employees to participate in political activities.

**Bankruptcy.**—Several technical amendments were made to the recently revised bankruptcy code.

**Fisheries.**—An interstate compact among 14 Atlantic seaboard states for the better utilization of the fisheries was authorized and an Atlantic States Marine Fisheries Commission, composed of representatives from each participating state, was created. Nine states have already ratified the compact.

**Districting in Alaska.**—In November the Organic Act of Alaska was amended to increase the Alaskan Senate from eight to 16, to increase the House from 16 to 24, and to permit districting within the four original judicial divisions by action of the Alaskan legislature. The number of senators from each judicial division was raised from two to four. Representation in the House, which was composed of four members from each division, will, when the new act goes into effect, be based upon population and will be reapportioned according to census reports.

## THE SUPREME COURT AND CONSTITUTIONAL LAW

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### GENERAL

Mr. Justice Byrnes resigned from the United States Supreme Court in October, 1942 to become Director of Economic Stabilization, and Wiley Blount Rutledge, Jr. was appointed to succeed him on Jan. 11, 1943. Mr. Justice Sutherland, who retired in 1938, died in July 1942. There were no other changes in personnel.

Members of the Court continued to disagree amongst themselves, and

these divisions appeared in many different areas of the law. In 33 cases either four or three justices dissented. No clear pattern of alignment amongst the justices emerged, although Justices Black, Douglas, and Murphy were frequently found together. They dissented either alone or with others in 14 cases. The Court overruled three earlier decisions, which brings the total of such reversals since 1937 to 20.

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Two unique incidents occurred, the most striking of which was the session of the Court unexpectedly called on July 29 to deal with the case of the Nazi saboteurs. The other was the announcement in late November that the Court could not muster a quorum to review the district court's dismissal of the Government's anti-trust suit against the Aluminum Company of America. Chief Justice Stone and Justices Reed, Murphy, and Jackson disqualified themselves because of official connection with earlier stages of the case. A quorum is fixed by statute at six.

### TRENDS AND GROUPING

The chief groups of cases were the following: First, important cases under the Commerce Clause construed the extent of Congressional power to regulate interstate commerce, while others dealt with the power of the state to regulate or tax commerce. Second, a few cases arose from the war. The Saboteur Case was the most important. Others dealt with the right of enemy aliens to sue in our courts. Third, varied problems of civil liberties were dealt with. These cases concerned freedom of religion, freedom of speech and press, peonage, and the rights of persons accused of crime. An isolated case of importance was the one upholding the validity in other states of Nevada divorces.

The Court continued to exercise the broad judicial tolerance towards legislation which has marked its decisions for several years. This has produced two lines of decision under the Commerce Clause, one of which has upheld Congressional acts penetrating deeply into the field of local transactions, while the other has held valid state laws taxing and regulating with increasing rigor the various aspects of interstate commerce. In some of the more important civil liberties cases the Court similarly has treated with deference various legislative regulations of speech, press, and religion, on the theory that the judgment of the legislator ought not lightly to be set aside.

### THE COMMERCE POWER IN LOCAL ACTIVITIES

In *Wickard v. Filburn* (Nov. 9) the Court held that a farmer raising 23 acres of wheat, none of which was intended for interstate commerce but all of which he consumed or fed to his stock, so affected interstate commerce as to be liable to marketing penalties imposed under the Agricultural Adjustment Act of 1938. The purpose of this act is to control the volume of wheat and other farm products which move in interstate commerce in order to avoid surpluses and shortages and the abnormally low or high prices which result from them. The Secretary of Agriculture is directed to set up each year a national acreage allotment for the coming crop of wheat, provided that it appears that the expected wheat crop will exceed normal consumption and export by more than 35 per cent, and provided that a referendum of the farmers who will be subject to the quota shows that not more than one-third of them oppose its establishment. This allotment is apportioned to the states and counties and is eventually broken up into allotments for individual farms. Loans and payments to wheat farmers are provided for in specified circumstances. A wheat quota was established under these conditions for the 1941 crop. Filburn's quota allotment was 11.1 acres and a normal yield of 20.1 bushels of wheat per acre, but he ignored the quota restrictions, planted 23 acres, and harvested 239 bushels from the forbidden planting. Under the provisions of the act he was liable to a penalty of 49 cents a bushel on this excess, or \$117.11. He could have escaped the penalty by storing the additional wheat to meet a possible deficiency under the next year's quota, or by giving it up to the Secretary of Agriculture. He did neither of these things. It was Filburn's practice to sell part of his crop, though not in interstate commerce, to feed part to his poultry and livestock, to make flour for home consumption from part of it, and to keep the rest for



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seed. During 1941 wheat producers, who cooperated with the Agricultural Adjustment Program, received an average price on the farm of \$1.16 a bushel, as compared with the world market price of 40 cents.

In holding *Filburn* validly subject to the act the Court, speaking through Mr. Justice Jackson, rejected the argument that since his wheat was not to be sold in interstate commerce it could not be reached by the statute, because this would involve Federal control of the production and consumption of wheat. The purpose and effect of the act is to regulate marketing, and this is, of course, interstate commerce. Congress may include in its scheme *Filburn's* wheat and other wheat similarly situated since this is necessary to the effective operation of the marketing program. The Court refused to be bound by words or formulas used in earlier decisions in efforts to draw sharp lines between interstate and local commerce. It referred to the old distinction between "production," "manufacturing," and "mining" as activities which are strictly "local," in contrast to the transportation or distribution of goods, and also to the distinction drawn in the *N. R. A.* case between the "direct" and "indirect" effects of local transactions on interstate commerce. It said: "We believe that a review of the course of decision under the Commerce Clause will make plain, however, that questions of the power of Congress are not to be decided by reference to any formula which would give controlling force to nomenclature such as 'production' and 'indirect' and foreclose consideration of the actual effects of the activity in question upon interstate commerce."

These formulas do not prevent the commerce power from reaching any local activities, such as *Filburn's*, which have a substantial economic effect on interstate commerce, even though at some earlier time these effects have been defined as "indirect." The consumption on the farm of home-grown wheat affects interstate commerce sharply since it "consti-

tutes the most variable factor in the disappearance of the wheat crop." This wheat, though never marketed, "supplies a need of the man who grew it which would otherwise be reflected by purchases in the open market." Congress could properly conclude that wheat consumed on the farm if left outside the scheme of regulation would have a substantial effect in defeating and obstructing the Government's entire marketing program. The small amount of wheat involved does not effect the authority of Congress to regulate it. If the regulation is otherwise valid it applies to wheat grown on 23 acres just as clearly as to that grown on 23,000 acres. There is no denial of due process of law. *Filburn's* quota was fairly determined; his wheat was not confiscated, and, had he desired, he could have escaped the marketing penalty by delivering his wheat to the Secretary or by storing it. In view of the favorable wheat price resulting from the Government's program *Filburn* is not "worse off for the aggregate of this legislation . . . ; it only appears that if he could get all that the government gives and do nothing that the government asks he would be better off than this law allows. To deny him this is not to deny him due process of law."

In *United States v. Wrightwood Dairy Company* (Feb. 2) the Secretary of Agriculture, acting under the provisions of the Agricultural Marketing Agreement Act of 1937, had established a milk marketing agreement in the Chicago area. Under this agreement milk is classified, and minimum prices to be paid producers for each class of milk are established. All of the *Wrightwood* milk was produced locally and none of it was sold in interstate commerce. Speaking through Chief Justice Stone the Court held that since Congress plainly has the power to regulate the price of milk distributed through interstate commerce it has the necessary incidental power to regulate the price of locally produced and locally sold milk which competes with interstate commerce. "The commerce power is not



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confined in its exercise to the regulation of commerce among the states. It extends to those activities intrastate which so affect interstate commerce, or the exertion of the power of Congress under it, as to make regulation of them appropriate means to the attainment of a legitimate end." It is clear that the marketing of a local product "in competition with that of a like commodity moving interstate may so interfere with interstate commerce or its regulation as to afford a basis for Congressional regulation of the intrastate activity." The legislative history of the Marketing Act shows that Congress intended to confer the authority here exercised.

In *Cloverleaf Butter Company v. Patterson* (Feb. 2) the Court held in a five-to-four decision that the exercise by Congress of its authority under its taxing and commerce powers to control the purity of renovated butter sold in interstate commerce rendered invalid a state law setting up standards of purity for "packing stock butter" out of which the renovated butter is made. By provisions of the Internal Revenue Code the entire process of manufacturing renovated butter is brought under close Federal supervision, and renovated butter not meeting Federal standards of purity is barred from interstate commerce. The Federal laws, however, do not specifically apply to the ingredients of renovated butter of which "packing stock butter" is the most important. Did Congress, by occupying as much of the field of regulation as it has, intend to exclude from that field any competing or supplementary state regulation? The Court, speaking through Mr. Justice Reed, held that it did. The authority of the state to confiscate packing stock butter interferes with the purposes of the Federal legislation. "Congress hardly intended the intrusion of another authority during the very preparation of a commodity subjected to the continuous surveillance and comprehensive specifications of the Department of Agriculture." In a dissenting opinion by Chief Justice Stone the minority urged the lack of

conflict between the state and Federal regulations. They referred to the long continued and friendly cooperation between the Federal and state administrative agencies in this field, and rejected the assumption that Congress intended to prevent the states from passing the supplementary regulations here involved. Congress obviously could oust the states from this field of legislation by making its own statutes more specific. Congress, therefore, not the Court, should do it if it is to be done.

Two cases construing the Fair Labor Standards Act pushed Federal authority under the commerce power far down into local affairs. In *Kirschbaum v. Walling* the Court held that the wage and hour provisions of the act cover the operating and maintenance employees of the owner of a building who rented space to persons who produce goods principally for the interstate market. These employees comprised firemen, electricians, elevator operators, watchmen, porters, and the like. The Fair Labor Standards Act applies to employees who are "engaged in commerce or in the production of goods for commerce," and declares that "for the purposes of this act an employee shall be deemed to have been engaged in the production of goods if such employee was employed . . . in any process or occupation necessary to the production thereof, in any state." Speaking for the Court Mr. Justice Frankfurter aptly observed: "To search for a dependable touchstone to determine whether employees 'are engaged in commerce or in the production of goods for commerce' is as rewarding as an attempt to square the circle." The Court held, however, that the employees in this case had a "close and immediate tie" with the process of producing goods for commerce and were therefore an essential part of it.

A similar result was reached in *Warren-Bradshaw Drilling Company v. Hall* (Nov. 9). Here the same act was held applicable to the employees of an independent contractor who drills oil wells upon lands owned by others from which oil is produced

which is shipped in interstate commerce. Again the Court held that the employees were engaged in work which was necessary to the production of the interstate product. Mr. Justice Roberts dissented in both of these cases on the ground that the connection between the employment involved and interstate commerce was so remote as to result in an "extravagant application of the statute." In the Hall case he observed: "The reasoning seems to be as follows. The oil will pass into commerce if it is mined. But it can not be mined unless somebody drills a well. An independent contractor's men do part of the drilling. Their work is 'necessary' to the mining and transportation of the oil. So they fall within the act. This is to ignore all practical distinction between what is parochial and what is national . . . It is but to repeat, in another form, the old story of the pebble thrown into the pool, and the theoretically infinite extent of the resultant waves, albeit too tiny to be seen or felt by the exercise of ones senses."

## NATURAL GAS ACT UPHELD— FEDERAL RATE-MAKING

A rate order issued by the Federal Power Commission under the authority of the Natural Gas Act of 1938 was held valid in *Federal Power Commission v. Natural Gas Pipe-line Company* (March 16), the first important case to arise under this statute. The company brings gas by its own pipelines from Texas to Illinois where it is sold and distributed. The statute authorizes the Commission to fix "just and reasonable rates" for the transportation and sale of gas in interstate commerce, and to order rates decreased which are "unjust . . . or are not the lowest reasonable rates." The Commission valued the company's property and business, using mainly the company's estimates of costs and physical value, and thereby reached a rate base. After providing for amortization and rate of return of 6½ per cent, it found that there would be available some \$3,750,000 of income which could be applied to the

reduction of rates. The Commission accordingly ordered the company to file a new schedule of rates and charges which would reduce its operating revenue by \$3,750,000. In upholding the Commission's order the Court, speaking through Chief Justice Stone, dealt broadly with the statute and the Commission's power under it. It declared that the power of Congress to regulate the prices of commodities in interstate commerce is at least as great under the Fifth Amendment as is that of the states under the Fourteenth Amendment to regulate the prices of intrastate commodities. Congress clearly had power to regulate the price of gas distributed through pipelines in interstate commerce. The Commission could validly order the company to decrease its revenues by working out a new rate schedule instead of issuing a Commission-made schedule of rates. The chief attack on the order was based on the Commission's refusal to add to the rate base \$8,500,000 for going concern value, an item covering expenses incurred in building up the business during the period prior to rate regulation. The Court examined this claim with care and concluded that it was without merit. It examined methods by which amortization was computed and found them proper. It held that 6½ per cent is a fair annual return on the rate base as computed.

An interesting concurring opinion was filed by Mr. Justice Black, joined by Justices Douglas and Murphy. He took the Court to task for reviewing in detail the methods by which the Commission reached its final rate order. The Natural Gas Act provides that "the finding of the Commission as to the facts, if supported by substantial evidence, shall be conclusive. Therefore, it is not the function of the courts to prescribe what formula shall be used . . . The decision in each case must turn on considerations of justness and fairness which can not be cast into a legalistic formula. The rate of return to be allowed in any case calls for a highly expert judgment. That judgment has been

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entrusted to the Commission. There it should rest."

### STATE POWER UNDER INTER-STATE COMMERCE

If the power of Congress over interstate commerce was generously upheld by the Court, so also was that of the states. This is strikingly evident in *Duckworth v. Arkansas* (Dec. 15, 1941). An Arkansas statute forbids any person to ship distilled spirits into the state without first securing a permit from the state commissioner of revenue. Duckworth was arrested in Arkansas while transporting by motor truck from Illinois to Mississippi a load of distilled spirits without an Arkansas permit. The Court upheld his conviction. Since the liquor was admittedly intended for illegal use in Mississippi, the case could have been based on the Twenty-first Amendment. The Court, however, preferred to hold that the Arkansas act does not impose an unconstitutional burden upon interstate commerce. It requires those engaged in transporting liquor across the state to establish their identity, record their point of destination, and thus allow state authorities to take proper measures to see that the liquor is not diverted locally. This is held to be a minor inconvenience imposed on interstate commerce in order to protect the interest of the state. In a concurring opinion Mr. Justice Jackson urged that the case should have rested on the Twenty-first Amendment and protested against permitting state trade barriers, any one of which may be petty, but which collectively are developing a strangling effect upon interstate commerce.

In *Allen-Bradley Local Number 1111 v. Wisconsin Employment Relations Board* (March 30) the Court upheld an order of the Wisconsin Board enjoining picketing by the union in a labor dispute which admittedly could have been dealt with, but was not, by the National Labor Relations Board. The order of the state board enjoined mass picketing, or picketing accompanied by violence, threats, or the

obstruction of entrance to and egress from the premises picketed. The Court held that the jurisdiction of the National Labor Relations Board does not prevent the state board from issuing an otherwise valid order which in no way obstructs the exercise of any Federal power.

In *Illinois Natural Gas Company v. Central Illinois Public Service Company* (Jan. 5) the Court held that the Illinois Public Service Commission was without power to order a pipeline company bringing gas into the state through interstate commerce to divert a portion of that gas to aid another company in supplying its consumers. Whether the state commission could have acted in the absence of Federal control of this field the Court did not discuss. It held that the Natural Gas Act of 1938 gives the Federal Power Commission full authority to regulate extensions of gas transportation facilities and their physical connections with those of distributors as well as the sale of gas to them. Application should have been made to the Federal Commission for the needed extension, for the exercise of Federal power has ousted the state from this field of regulation.

A Tennessee tax upon the net income of a pipeline company engaged in interstate commerce when the income is derived from sales of natural gas within the state does not violate the Commerce Clause. This is the case of *Memphis Natural Gas Company v. Beeler* (March 30). The company brings natural gas through pipelines from Louisiana into Tennessee. It delivers the gas to distributing companies which sell it to local consumers. The pipeline company and the distributing companies have a joint agreement whereby the proceeds from the sale of the gas to consumers, after the deduction of various costs, are divided between them. The Court held that the pipeline company under this joint agreement was engaged in business within the state and was accordingly subject to the state's taxing power. The tax hit nothing but net earnings properly at-



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tributable to Tennessee and in no way infringed the Commerce Clause.

### FAIR LABOR STANDARDS ACT

Besides the two cases already discussed dealing with the constitutional scope of the Fair Labor Standards Act there were four which further construed the act. Two of these dealt with overtime pay. In *Overnight Motor Transportation v. Missel* (June 8) the company's rate clerk, entitled to a statutory minimum salary of \$27.50 per week, worked irregular hours which ranged from 65 to 80. Missel was entitled under the act to time and a half for overtime, but in order to compute the overtime pay it was necessary to determine a basic hourly wage rate. The company sought to compute overtime pay on the basis of the hourly rate derived from dividing the weekly minimum of \$27.50 by the statutory hour standard of 44. The Court, however, directed the company to pay overtime upon the basis of the regular or customary hourly wage rate which was considerably higher than the minimum.

In *Walling v. A. H. Belo Corporation* (June 8), the company, a newspaper publisher, established basic rates of pay at 67 cents per hour for the first 44 hours each week with overtime at 150 per cent of 67 cents. To protect the men whose irregular schedules might fall in any week to a small number of hours it added a guarantee of at least \$40. The Federal administrator urged that this \$40 must serve as the basis for the computing of the hourly wage rate on which overtime is figured. Under the company's formula a man working 50 hours a week would receive pay for 40 hours at 67 cents and for ten hours overtime at \$1 an hour—total \$36.80. By the administrator's rule the hourly rate in the same situation would be \$40 divided by 50, which would be 80 cents an hour. He would receive this for the first 40 hours and \$1.20 per hour for ten hours overtime—total \$44. The Court held that the company could validly agree with its men for the 67 cent "regular" rate and

that the \$40 guarantee was not intended to replace it.

In *Cudahy Packing Company v. Holland* (March 2) the Court held by a five to four decision that the Fair Labor Standards Act does not authorize the Administrator of the Wage and Hour Division to delegate his power to subpoena witnesses. The dissenting justices objected to what they regarded as an over-technical interpretation of the statute which would seriously hamper the effective enforcement of the law.

*Williams v. Jacksonville Terminal Company* (March 2) held that the tips received by redcaps at a railroad terminal are part of their wages within the meaning of the Fair Labor Standards Act. An employer, after due notice to his employees, is entitled to keep all earnings such as tips arising from the business. In the present case these tips were turned in by the redcaps at the close of each day and credited towards the statutory minimum wage received by the redcap from the company. The arrangement was held valid.

### LABOR CASES

The only important case arising under the National Labor Relations Act was *Southern Steamship Company v. National Labor Relations Board* (April 6) in which a strike by seamen on board a vessel tied to a dock away from its home port was held to constitute a mutiny within the provisions of the Criminal Code, and to justify the seamen's discharge by the owner for misconduct. The strike occurred while a Philadelphia vessel was docked at Houston, Tex. Thirteen members of the crew struck to compel recognition of their union, and continued to strike, without violence, after being formally notified by a Federal officer that they were violating the Criminal Code by refusing to obey the lawful commands of the master of the ship. When the ship reached Philadelphia five of the men were discharged. The National Labor Relations Board held that their discharge was an unfair labor practice since it resulted from their activities



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in behalf of the union, and ordered their reinstatement with back pay. The Court reviewed the reasons for requiring seamen to obey orders while on shipboard, and held that the strike was unlawful from its inception. Admitting that the unfair labor practices of the company had caused the strike, the Board's order of reinstatement went beyond its authority under the statute to make such requirements "as will effectuate the policies of the act." Four justices dissented.

The Court held in *United States v. Local Number 807* that the Federal Anti-racketeering Act of 1934 does not apply to the activities, many of them admittedly unlawful, on other grounds, of a labor union seeking to further its own interests. The defendant union includes most of the motor truck drivers and helpers in the City of New York. Large shipments of goods come into New York from other states in trucks manned by out-of-state drivers and helpers who do not belong to Local 807. These trucks and their drivers were met by members of Local 807 who demanded that members of the local union be permitted to drive the trucks into the city and when reloaded for the return journey drive them out again. In lieu of this, Local 807 demanded from the owners of the trucks \$9.42 for each large truck and \$8.41 for each small truck. These amounts were the regular union rates for a day's work of driving and unloading. If these demands were refused violence and coercion was threatened and not infrequently resorted to. Many of the out-of-state trucking companies complied with these demands in order to avoid trouble. The Federal Anti-racketeering Act makes it a crime to obtain the payment of money "by the use of, or attempt to use, or threat to use force, violence or coercion," but the act does not apply to attempts to secure "the payment of wages by a bona fide employer to a bona fide employee." In an opinion by Mr. Justice Byrnes the Court declared that the legislative history of the act indicates that it was intended to reach the price-fixing and economic

extortion carried on by professional gangsters of the Kelly and Dillinger types. Congress did not intend it to apply to the "traditional labor union activities . . . Congress plainly attempted to distinguish militant labor activity from other, and to afford it ample protection." The exception from the penalties of the act of those seeking the payment of wages "by a bona fide employer to a bona fide employee" is not limited to those who have attained the status of an employee before they attempt to obtain the money. Since Local 807 attempted to secure money which was the equivalent of wages for the local trucking service which they insisted upon rendering the act did not apply to them. Chief Justice Stone dissented on the ground that the payments in question were made not for services to purchase immunity from violence. The members of the union were not *bona fide* employees, and the money which they extorted was not wages.

### FEDERAL ANTI-TRUST LAWS

In *Georgia v. Evans* (April 27) the Court held that a state is a "person" within the meaning of the section of the Sherman Act which provides that "any person who shall be injured in his business or property" by others who have violated the act shall recover triple damages. In *United States v. Cooper Corporation* (312 U. S. 600, 1941) the Court held that the United States Government could not sue under this clause, since the act afforded the United States three other remedies—criminal prosecution, injunction, and seizure of property. The states, however, without the triple damage clause, have no redress for injuries resulting from violations of the act, a result Congress could hardly have intended. Georgia was accordingly allowed to sue the defendants for unlawfully combining to fix prices and suppress competition in the sale of asphalt which the state used in large quantities in building and maintaining its roads.

In two cases the Court construed rigidly the right of the holder of a

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patent to control the re-sale price of the patented article. In *United States v. Univis Lens Company* (May 11), and *United States v. Masonite Corporation* (May 11), the Court held in each that the complicated price-fixing agreements and combinations involved went beyond the legitimate scope of the patent monopoly and violated the Sherman Act.

### WAR PROFITS—BETHLEHEM STEEL CORPORATION CASE

The Court, with one dissent, permitted the Bethlehem Steel Corporation to recover from the Government some \$5,000,000 on contracts for ships built during the First World War. With previous payments this gave the company a profit of \$24,000,000, or a little more than 22 per cent of the cost of the ships. The upshot of this decision was that the Government had made a bad bargain, and could not now crawl out of it. The contracts involved provided for a preliminary estimate of the cost of building the ships, an estimate now shown to have been exorbitantly high, and an agreement between the company and the Government to divide equally the savings resulting from the actual building of the ships at a lower cost. The Government alleged that these contracts were made under duress arising out of the war emergency. The Government needed ships and needed them in a hurry, and Bethlehem was the biggest ship-building establishment in the world. In this situation the corporation had the whip hand and dictated its own terms. The Court rejected the claim of duress. It was also argued that the contracts were unenforceable because they provided for unconscionable profits. Admitting that a profit of 22 per cent is unduly high, the Court held that it is not, however, flagrantly out of line with profits generally earned during the last war. The Court's resumé of profiteering which brought in in some cases 200 and 300 per cent does not make pleasant reading but tends to support the Court's conclusion that the Bethlehem company was no worse than many others

and better than some. Mr. Justice Frankfurter dissented.

### THE NAZI SABOTEUR CASE

The biggest domestic news story of the year was that of the capture, trial, and punishment of the Nazi saboteurs. On June 13 four men in German uniforms landed on Long Island from a German submarine. Four days later four other men landed under similar circumstances near Jacksonville, Fla. Each group buried in the sand their uniforms and a supply of explosives, incendiaries, fuses, and the like, and proceeded inland. By June 27 all had been arrested by the F. B. I. All of the eight men were born in Germany, all had lived in the United States, and all had returned to Germany between 1933 and 1941. Six were German citizens, one was a naturalized citizen who had forfeited that citizenship by induction into the German army, and the other claimed American citizenship by reason of the naturalization of his parents when he was a child. The eight men had been trained in a special school for sabotage near Berlin to effect the destruction of war industries, communications systems, and other key war facilities. They had instructions to engage in sabotage in this country, and the Government took from them about \$175,000 in American currency intended for use as bribes and expenses. They were to be paid for their services.

On July 2 President Roosevelt issued two proclamations. The first denied to enemies who enter the United States to commit sabotage or other hostile acts any right of access to the courts of the United States and directed that they be tried by military tribunals. The second created a Military Commission of eight army officers to try the eight saboteurs, ordered the Attorney General and the Judge Advocate General to prosecute them, and designated two army officers as counsels to defend them. The Commission was authorized to make its own rules, to receive evidence which would have "probative value to a reasonable man," to con-

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vict or sentence by a two-thirds vote, and to send its findings to the President for final action.

The Government brought four charges against the prisoners, the most important of which was the broad charge of violating the law of war by passing through our lines in civilian dress in order to commit sabotage, espionage, and other hostile acts. The Military Commission began the trial of the prisoners early in July behind a veil of almost complete secrecy. All of the defendants and numerous witnesses testified. Two of the prisoners aided the Government very substantially in building up its case. The defense rested its case on July 27.

On that day it was announced that the Supreme Court of the United States, then in recess for the summer, would convene in special session on July 29 to consider the submission of petitions for writs of habeas corpus on behalf of seven of the prisoners. The Court heard argument on these petitions, and two days later, in a brief *per curiam* opinion by the Chief Justice, held that the accused could validly be tried before a military commission, that the Commission was lawfully constituted, and that there was no ground for discharge by habeas corpus. A full opinion by Chief Justice Stone was filed on Oct. 29 under the title *Ex parte Quirin et al.* After the decision in July the Military Commission completed its work, and sent its verdict to the President. On Aug. 8 the President announced that six of the prisoners had been electrocuted, and that the two who had aided the Government had been given life imprisonment and 30 years, respectively.

The opinion of the Court established three main points. First, the Military Commission had jurisdiction to try the charges against the defendants. The President had power to set up the Commission. The Court found it unnecessary to decide whether the President could have done this simply by virtue of his power as commander-in-chief, because Congress had clearly given him this power in the Articles

of War. The Commission had jurisdiction because the offenses charged against the prisoners were actually offenses against the law of war, which distinguishes between lawful combatants who are liable to capture and detention as prisoners of war and unlawful combatants who are subject to trial and punishment by military tribunals. By long established practice "those who during time of war pass surreptitiously from enemy territory into our own, discarding their uniforms upon entry, for the commission of hostile acts involving the destruction of life and property have the status of unlawful combatants punishable by military commission." The citizenship of the one defendant did not help him. Citizens may commit offenses against the law of war and thereby become enemy belligerents and may be dealt with as such.

Second, the Constitutional guarantees of indictment by grand jury and trial by jury do not apply to military tribunals. The common law did not require jury trial before military tribunals, and the jury trial clauses of the Constitution did not extend that guarantee beyond its common law application. The defendants had relied heavily upon the Court's decision in *Ex parte Milligan* in 1866 (4 Wallace 2), in which the Court held in effect that Congress could not authorize trial by military tribunal outside the actual theatre of war in which the civil courts were no longer effectively operating. Pointing out that Milligan had long been a citizen and resident of Indiana, had never resided in a rebellious state, and was not an enemy belligerent, the Court said: "We construe the Court's statement as to the inapplicability of the law of war to Milligan's case as having particular reference to the facts before it."

Third, the President's order setting up the Military Commission was valid, and the Commission itself had followed lawful procedure. A mass of technical objections charged that the President's order and the Commission's procedure violated many of the provisions relating to military tri-



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bunals embodied in the Articles of War. The Court divided evenly on their reasons for rejecting this contention. Four justices believed that the President was not bound by the Articles of War in setting up the Commission, and the other four believed that while he was so bound he had not violated them. Mr. Justice Murphy did not sit.

### ENEMY ALIENS—RIGHT TO SUE

Two cases involved the right of enemy aliens to bring suits in American courts. In *Ex parte Colonna* (Jan. 5) the Court held that the provisions of the Trading with the Enemy Act suspend the right of enemy governments to prosecute actions in our courts. Accordingly the Royal Italian Ambassador was not permitted to present an action in a Federal district court to stop pending litigation with respect to property alleged to belong to the Italian Government. In *Ex parte Kawato* (Nov. 9) on the other hand, the Court held that a state of war with Japan did not prevent Kawato, now an enemy alien, from bringing an action in admiralty to collect wages due him as a seaman. While originally barred by common law, such cases are now permitted in English courts. The Trading with the Enemy Act does not bar such suits; it merely prevents enemy governments, or their officers, or citizens of enemy nations not residing in this country from resorting to our courts.

### FREEDOM OF RELIGION

Jehovah's Witnesses continue to bring to the Court important cases involving civil liberty. *Jones v. Opelika* (June 8), combined with two similar cases, raised the question of the constitutionality of collecting non-discriminatory license taxes on the sale of printed matter from those who sell religious books and pamphlets as a means of making religious converts. The Opelika (Alabama) ordinance imposed an annual license fee of \$10 upon book dealers and \$5 upon transient agents, dealers, or distributors of books. Casa Grande (Ari-

zona) required a quarterly license fee of \$25 from transient merchants, peddlers, and street vendors. Fort Smith (Arkansas) required a license fee from all peddlers at the rate of \$2.50 per day or \$25 per month. In each of these cities Jehovah's Witnesses were arrested for refusing to pay the fees required. None of the ordinances discriminated against the sale of religious literature, nor were they drafted with religious literature in mind. They were ordinary taxes on the privilege of peddling.

Five members of the Court, speaking through Mr. Justice Reed, held these ordinances validly enforceable. The petitioners had not attacked the amount of the taxes, but had denied the right of the cities to tax them at all. The Court, therefore, does not discuss the validity of burdensome taxes on the distribution of religious literature. "The sole constitutional question considered is whether a non-discriminatory license fee, presumably appropriate in amount, may be imposed upon these activities." City ordinances which prohibit the distribution of literature have been held invalid, but when religious advocates resort to commercial methods to raise funds for religious propaganda it is natural and proper to subject them to the payment of a fee. None of the three ordinances attempts to censor the literature sold or to regulate in any way the activities of the sellers. The fees involved were not shown to be larger than license fees upon commercial activities may reasonably be. "The First Amendment does not require a subsidy in the form of fiscal exemption." Answering the argument that the aggregate of small fees collected in each of the many communities which the petitioners might visit would amount to a crushing burden upon their activities, the Court said that if the fees are commensurate with the activities which are licensed, which was not denied, the petitioners will "have enjoyed a correlatively enlarged field of distribution." The Opelika licenses were subject to revocation in the discretion of the municipal authorities,



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but this power of arbitrary revocation is irrelevant since the petitioners never got a license and were, therefore, not injured by this provision.

Chief Justice Stone dissented strongly. The revocation provision of the Opelika ordinance just mentioned is a more serious denial of freedom of press and religion than a provision making the granting of licenses subject to the arbitrary discretion of the licensing officials. In the latter type of case, held invalid in *Lovell v. Griffin* (303 U. S. 444, 1938), "at least the defendant might have been given a license if he had applied for it . . . Here the defendant, Jones, was prohibited from distributing his pamphlets at all unless he paid in advance a year's tax for the exercise of the privilege and subjected himself to termination of the license without cause, notice, or hearing at the will of city officials." The validity of the three ordinances is not supported by calling the required payments "fees." They are not designed to cover any administrative costs. They do not impose any regulations upon the licensees. Their size bears no relation to the extent of the activities carried on under the license, nor to the amounts of money received by the licensee. They are taxes levied upon the activities carried on. They are not only taxes upon the dissemination of religious literature, but taxes which are in effect prohibitive. The fact that they are non-discriminatory does not help. "The First Amendment is not confined to safeguarding freedom of speech and freedom of religion against discriminatory attempts to wipe them out. On the contrary, the Constitution, by virtue of the First and Fourteenth Amendments, has put those freedoms in a preferred position." Resorting to past history the Chief Justice observes: "It seems fairly obvious that if the present taxes, laid in small communities upon peripatetic religious propagandists, are to be sustained, a way has been found for the effective suppression of speech and press and religion despite constitutional guarantees. The very

taxes now before us are better adapted to that end than were the stamp taxes which so successfully curtailed the dissemination of ideas by eighteenth century newspapers and pamphleteers, and which were a moving cause of the American Revolution . . . vivid recollections of the effect of those taxes on the freedom of press survived to inspire the adoption of the First Amendment."

Justices Black, Douglas, and Murphy joined in the opinion of the Chief Justice, and Mr. Justice Murphy wrote a separate dissenting opinion with which the Chief Justice and Justices Black and Douglas concurred. Mr. Justice Black, joined by Justices Douglas and Murphy, added a separate statement in which they said: "This is but another step in the direction which *Minersville School District v. Gobitis* (310 U. S. 586, 1940), took against the same religious minority and is a logical extension of the principles upon which that decision rested. Since we joined in that opinion in the *Gobitis* case, we think this is an appropriate occasion to state that we now believe that it was also wrongly decided." Such a gratuitous statement by members of a majority of the Supreme Court is without precedent. It has resulted in reopening the issue involved in the *Gobitis* case, and the Supreme Court has granted *certiorari* in a case presenting the flag salute problem for re-argument. Mr. Justice Byrnes was a member of the majority in the Opelika case, so his resignation left the Court at the end of the year evenly divided on the issues involved.

### FREE SPEECH AND PRESS

The Court has repeatedly held that freedom of the press includes the right to distribute propagandist literature upon the public streets. In *Valentine v. Chrestensen* (April 13) this doctrine is restricted by holding that it does not extend to commercial advertising. Chrestensen was informed by the New York police that, under the Sanitary Code, he could not distribute advertising handbills,

but that he might freely distribute handbills solely devoted to "information or a public protest." He accordingly prepared doublefaced handbills. On one side was commercial advertising; on the other was a protest against the action of the City Dock Department in refusing to let him moor his boat at a city pier. The Court found no abridgement of freedom of the press in forbidding him to circulate these handbills. The inclusion of the protest against official conduct was an obvious subterfuge. "If that evasion were successful, every merchant who desires to broadcast advertising leaflets in the streets need only append a civic appeal, or a moral platitude, to achieve immunity from the law's command."

In *Chaplinsky v. New Hampshire* (March 9) the appellant, a member of Jehovah's Witnesses, was convicted under a New Hampshire statute which provides "no person shall address any offensive, derisive or annoying word to any other person who is lawfully in any street or other public place, nor call him by any offensive or derisive name, nor make any noise or exclamation in his presence and hearing with intent to deride, offend, or annoy him, or to prevent him from pursuing his lawful business or occupation." Chaplinsky got into an argument with the police over his activities in distributing literature on the public streets and in publicly denouncing all religion as a "racket." He was warned by the city marshal that he was creating a disturbance although there was no threat to arrest him. The complaint charged that in response to this warning Chaplinsky "did unlawfully repeat the words following, addressed to the complainant, that is to say, 'you are a God damned racketeer' and 'a damned Fascist and the whole government of Rochester are Fascists or agents of Fascists' the same being offensive, derisive and annoying words and names." The Court, speaking through Mr. Justice Murphy, held that Chaplinsky's utterances were not protected by the First or Fourteenth Amendments as an exercise of freedom of speech or

religion. The New Hampshire statute did not go beyond forbidding such utterances in public places as would be likely to result in breaches of the peace. In the words of the state court; "The English language has a number of words and expressions which by general consent are 'fighting words' when said without a disarming smile . . . Such words, as ordinary men know, are likely to cause a fight." They are not protected by the constitutional guarantee of freedom of speech, nor is the statute so vague and indefinite in its definition of crime as to render a conviction under it a denial of due process.

#### FREE SPEECH AND PEACEFUL PICKETING

In *Thornhill v. Alabama* (310 U. S. 88, 1940) the Court laid down the broad principle that a blanket prohibition of all picketing, including peaceful picketing, invalidly abridges freedom of speech and press. Later decisions have dealt with the application of that doctrine to concrete cases of picketing. In *Carpenters and Joiners Union v. Ritter's Café* (March 30) the union had been enjoined under the Texas anti-trust statutes from picketing Ritter's restaurant in protest against Ritter having contracted for the erection elsewhere in the city of a building by a contractor who employed non-union labor. The Texas court held that the picketing, admittedly peaceful, could not lawfully be carried on at a place remote from the *situs* of the actual labor dispute. Had the picketing occurred where the building was going up it would have been valid, but since it took place at Ritter's restaurant it unlawfully interfered with his business. The Court, through Mr. Justice Frankfurter, held that the union's constitutional rights were not impaired by the injunction. It is a proper exercise of the state's police power to confine picketing to the actual *situs* of a labor dispute. "The recognition of peaceful picketing as an exercise of free speech does not imply that the states must be without power to confine the sphere of

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communication to that directly related to the dispute." Four justices dissented in two opinions written by Justices Black and Reed on the ground that peaceful picketing, as an exercise of freedom of speech, is entitled to protection wherever it may be carried on.

In *Hotel Restaurant Employees International Alliance v. Wisconsin Employment Relations Board* (March 2) the Wisconsin Board enjoined the petitioners from picketing two hotels in Milwaukee in the course of a labor dispute. The Board acted under a Wisconsin statute forbidding as an unfair labor practice mass picketing, threats, intimidation, force and coercion, but providing that the act was not to be construed as preventing the right to strike or as invading freedom of speech. The petitioners had resorted to threats and violence, and the Board had enjoined only such violent and intimidating picketing. The Supreme Court unanimously upheld the injunction.

Picketing was held lawful in *Bakery and Pastry Drivers, etc. v. Wohl* (March 30). The petitioners are a labor union comprising truck drivers who distribute baked goods. The respondent is a peddler of baked goods who buys from bakers and sells and delivers to small retailers. The large bakeries in New York City were engaged in an effort to substitute the "peddler" system of distributing their goods for the direct employment of truck drivers, a change regarded by the union as injurious to the interests of its members. The union attempted to persuade all peddlers, including Wohl, to join the union, or, if unwilling to do that, to agree to work only six days per week and employ a union driver for one day. Wohl refused to do either of these things, and the union thereupon picketed the bakeries from which he bought his stock, and on several occasions pickets followed him about in an effort to dissuade his customers from buying from him. All this picketing was peaceful and orderly. The New York court enjoined this picketing on the ground that no labor dispute

was involved within the meaning of the New York statutes. The Supreme Court, in a unanimous opinion, held the picketing lawful. "One need not be in a 'labor dispute' as defined by state law to have a right under the Fourteenth Amendment to express a grievance in a labor matter by publication unattended by violence, coercion or conduct otherwise unlawful or oppressive."

### OKLAHOMA STERILIZATION LAW —DENIAL OF EQUAL PROTECTION

In *Skinner v. Oklahoma* (June 1) the Oklahoma Sterilization Act was held invalid on the ground that it contained exemptions so arbitrary as to deny the equal protection of the laws. The general validity of the act, apart from the unlawful discrimination involved, was not considered by the Court. The statute provided for the sterilization of "habitual criminals," persons thrice-convicted for felonies involving normal turpitude. It set up elaborate procedural requirements including jury trial of the question whether the criminal "may be rendered sexually sterile without detriment to his or her general health." However, "offenses arising out of the violation of the prohibitory laws, revenue acts, embezzlement or political offenses, shall not come or be considered within the terms of this act." Skinner was convicted in 1926 of stealing chickens, in 1929 of robbery, and in 1934 of robbery again, and an order for his sterilization was issued. In Oklahoma grand larceny is a felony when the property taken exceeds \$20. The embezzlement of property worth \$20 is also a felony. "A clerk who appropriates over \$20 from his employer's till and a stranger who steals the same amount are thus both guilty of felonies. If the latter repeats his act and is convicted three times he may be sterilized. But the clerk is not subject to the pains and penalties of the act no matter how large his embezzlements nor how frequent his convictions." The Court found this discrimination so arbitrary as to deny



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the equal protection of the laws guaranteed by the Fourteenth Amendment.

### CONSTITUTIONAL RIGHTS IN CRIMINAL TRIALS

A number of cases involved the procedural rights of persons being tried for crime. In *Glasser v. the United States* (Jan. 19) the most important question raised was whether Glasser, a former assistant United States attorney, convicted of defrauding the Government in the exercise of his official duties, had been denied the constitutional right of counsel guaranteed by the Sixth Amendment. Glasser was tried with other defendants in a Federal court and was represented by an attorney of his choice. At the outset of the trial the trial judge, over Glasser's protest, appointed Glasser's attorney to represent also a co-defendant. The legal interests of Glasser and this co-defendant were divergent, and the attorney was obviously embarrassed by this conflict of loyalties. The Supreme Court, speaking through Mr. Justice Murphy, held that Glasser's constitutional right to counsel had been impaired. Not only was he the victim of the conflict of interests just mentioned, but even without that he was entitled, if he so desired, to the undivided time and attention of his own lawyer. Mr. Justice Frankfurter, joined by Chief Justice Stone, dissented on the ground that Glasser's long experience as a criminal lawyer made his claim that his interests had been jeopardized by having to share his lawyer with a co-defendant entirely frivolous.

In *Betts v. Brady* (June 1) a divided Court held that the requirement of due process of law does not under all circumstances compel a state to appoint counsel at state expense for an indigent defendant. Betts was indicted for robbery in Maryland. Due to lack of funds he was unable to hire a lawyer, so he informed the judge, and requested that the court appoint one for him. The judge refused on the ground that it was not customary in Maryland to

appoint counsel for indigent defendants except in prosecutions for murder and rape. Betts elected to be tried without a jury, and the judge found him guilty. Speaking through Mr. Justice Roberts the Court held that the Sixth Amendment, which guarantees assistance of counsel, applies only in the Federal courts, and that the due process clause of the Fourteenth Amendment does not "incorporate as such the specific guarantees found in the Sixth Amendment." The requirements of due process of law are "less rigid and more fluid" than those in the Federal Bill of Rights. "Asserted denial is to be tested by an appraisal of the totality of facts in a given case. That which may, in one setting, constitute a denial of fundamental fairness, shocking to the universal sense of justice, may, in other circumstances, and in the light of other considerations, fall short of such denial." In the present case, as the record showed, the rights and interests of Betts had been adequately cared for. This distinguished the case from *Powell v. Alabama* (287 U. S. 45, 1932) in which the defendants in the notorious Scottsboro case were held to have been denied due process by the trial court's failure to provide them with counsel at state expense. That this right of counsel at state expense is not under all circumstances deemed a fundamental right is shown by the fact that a number of state constitutions do not recognize it, and that it was not required by common law. There is evidence to show that, where state constitutions have adopted the terms used in the Sixth Amendment, the purpose was only to establish what the common law had forbidden, namely, the right of a defendant to be represented in court by a lawyer of his own choice. Mr. Justice Black, joined by Justices Douglas and Murphy, dissented strongly on the ground that the state's refusal to provide Betts with an attorney was a denial of a fundamental right regarded as "shocking to the universal sense of justice," and therefore a violation of due process of law.



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In three cases involving no new principles the Court continued its campaign against third-degree methods of securing evidence in criminal trials. In *Ward v. Texas* (June 1) conviction rested on a confession made by Ward after he had been driven about the state for three days, placed in three different jails, and steadily subjected to questioning and threats of mob violence. In the end he broke down and declared that he would make any statement the sheriff desired, but that he was innocent. The use of his ensuing confession denied him due process. In *Pyle v. Kansas* (Dec. 7) a denial of due process was found in a refusal of the state court to pass on Pyle's charge that his conviction had been obtained by the use of testimony known by the prosecuting officials to be perjured and induced by threats of prosecution if the witnesses did not so testify. Pyle was entitled to have this charge passed upon. In *Waley v. Johnson* (April 27) the Court held that the defendant had been denied due process when his conviction rested upon a plea of guilty induced by threats of bodily violence. "If the allegations are found to be true, petitioner's constitutional rights were infringed. For a conviction on a plea of guilty coerced by a Federal law enforcement officer is no more consistent with due process than a conviction supported by a coerced confession." In *Hysler v. Florida* (March 2) a divided Court found no denial of due process in the refusal by the state court to consider Hysler's allegations, made four years after his conviction, that he had been convicted by the use of false testimony induced by coercion and intimidation. There was scant support of these charges in the record. Justices Black, Douglas, and Murphy dissented on the ground that due process guaranteed Hysler a chance to prove his charges even if they seemed inadequately supported.

### FEDERAL WIRE-TAPPING CASES

Two important decisions dealt with the use of testimony secured by Fed-

eral officers by wire-tapping or its equivalent. In both the evidence was held admissible. In *Goldstein v. United States* (April 27) conviction had rested mainly upon the testimony of Goldstein's co-conspirators in a scheme to defraud insurance companies by presenting false claims for disability benefits. These co-conspirators turned state's evidence when confronted with transcripts of their telephone conversations secured by the Government by wire-tapping. None of Goldstein's telephone conversations had been so intercepted. Were Goldstein's rights invaded by the use of this evidence? The Court held that no rights under the Fourth Amendment had been violated. The courts have uniformly held that one may not validly object to the introduction of evidence secured by an unconstitutional search and seizure of which he is not a victim. The Federal Communications Act forbids wire-tapping, and the wire-tapping in this case was clearly unlawful, but the Court construed the act as protecting only the sender of the intercepted message. This construction is supported by the provision of the statute permitting the sender of the messages to consent to their divulgence. Accordingly Goldstein is the victim neither of an unreasonable search and seizure nor of a violation of the statute, and the evidence was admissible. Mr. Justice Murphy, joined by the Chief Justice and Mr. Justice Frankfurter, dissented, urging that the statute should be interpreted as "a Congressional command that society shall not be plagued with such practices as wire-tapping."

In *Goldman v. United States* (April 27) the defendant, a lawyer, conspired with others to violate the Bankruptcy Act. He approached a lawyer representing creditors' interests with a proposal for fraudulent collusion in the sale of the bankrupt's assets. This lawyer notified Federal officers and with their knowledge arranged to negotiate further with Goldman. Prior to this meeting Federal officers installed a dictaphone in the office of

the conspirators with the intention of transcribing their telephone conversations. The dictaphone did not work, and the officers thereupon used a detectaphone, an instrument which when placed upon a partition wall picks up sound waves and amplifies them. The officers overheard in this way, and stenographers transcribed, conversations carried on by the conspirators over the telephone, and this testimony was used to convict them. Goldman argued that this evidence was inadmissible since it was secured by a violation of the Fourth Amendment and the Federal Communications Act. The Court held that there was no violation of the statutory prohibition against intercepting telephonic communications. There was no "interception" any more than there would have been had the officers heard the conversations through a crack in the door. The statute protects the actual means of communication and not the secrecy of the conversation. The Court held further that no illegal trespass had occurred, and, therefore, the installation of the detectaphone did not amount to an unreasonable search and seizure. So far as trespass goes the use of the detectaphone does not differ materially from the ordinary tapping of telephone wires which the Court, in the *Olmstead* case (277 U. S. 438, 1928), had held not to constitute an unreasonable search and seizure. The Court refused to overrule the *Olmstead* case although it was strongly urged to do so. Chief Justice Stone and Justices Frankfurter and Murphy dissented. All three stated that they favored the overruling of the *Olmstead* case. Mr. Justice Murphy went on to say that that case, however, should not cover the present one. "Whatever may be said of a wire-tapping device which permits an outside telephone conversation to be overheard, it can hardly be doubted that the application of a detectaphone to the walls of a home or a private office constitutes a direct invasion of the privacy of the occupant, and a search of his quarters."

## EXCLUSION OF NEGROES FROM JURIES

It is well established that the exclusion of Negroes from either a grand or petit jury because of their race deprives a Negro defendant brought before them of the equal protection of the laws. In *Hill v. Texas* (June 1) such discrimination was charged. The state court held that Hill had not sustained the burden of proof to show that the failure to put Negroes on the grand jury which indicted him was due to the fact that they were Negroes. His allegations were based upon statistics showing that for at least sixteen years no Negroes had been called for grand jury service in the county and that there were hundreds of Negroes whose education would presumably qualify them for jury service. The Court held that Hill was not obliged to prove cases of actual personal discrimination in the drawing of his jury. He was obliged merely to make out a *prima facie* case of the discriminatory exclusion of Negroes as a general policy, and this he had adequately done.

## JURY TRIAL IN CIVIL CASES

The fundamental nature of the right of jury trial in a civil case is emphasized in *Jacob v. the City of New York* (March 30), a case brought by Jacob to recover damages for personal injuries arising out of his employment on a municipally owned ferry boat. Jacob was injured by a fall which resulted when the open-end wrench with which he was tightening bolts on a manifold head slipped. The wrench fitted loosely because of long wear, and he had previously asked for a new one and had been told by the engineer that one had been ordered. His right to recover damages depended upon the application of the admiralty doctrine of comparative negligence. The trial judge, however, refused to let the case go to the jury and dismissed Jacob's complaint on the basis of the "simple tool doctrine." This doctrine is that "the master is not negligent in the case of defective simple tools

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because the possibility of injury from such tools is so slight as to impose no duty on him to see that they are free from defects in the first instance or to inspect them thereafter." A divided Court, speaking through Mr. Justice Murphy, held that the testimony of Jacob made a sufficient showing to allow the jury to consider the issue of the city's negligence. "Without doubt the case is close and a jury might find either way. But that is no reason for a court to usurp the function of the jury. We are satisfied that a due respect for the statutory guarantee of the right of jury trial, with its resulting benefits, requires the submission of this case to the jury."

### IMPAIRMENT OF OBLIGATIONS OF CONTRACTS

In an important case under the Contract Clause the Court held valid a New Jersey statute of 1931 exercising state control over insolvent municipalities. The plan created by the statute provided for the adjustment or composition of the claims of all the city's creditors, the approval of this arrangement by 85 per cent in amount of the creditors and by the Municipal Finance Commission set up for the administration of the act. It must be shown that the city is unable to pay its debts in full, that the composition is substantially measured by its ability to pay, that it is in the interest of all the creditors affected, that it is not detrimental to other creditors of the municipality, and that it does not involve any reduction of the face value of the debts. If the plan is approved and meets all these tests it becomes binding upon all of the city's creditors. Such a plan was set up to deal with the finances of the City of Asbury Park which had become insolvent. Under the plan the outstanding bonds were refunded and the creditors received in lieu of their original bonds new ones bearing a lower interest rate and maturing at a later date. A unanimous Court, speaking through Mr. Justice Frankfurter, found no impairment of the

obligation of the city's contracts. Urging that practical realism is necessary in dealing with the situation presented by this insolvent municipality, the opinion states "impairment of an obligation means refusal to pay an honest debt; it does not mean contriving ways and means for paying it. The necessity compelled by unexpected financial conditions to modify an original arrangement for discharging a city's debts is implied in every such obligation for the very reason that thereby the obligation is discharged, not impaired . . . the payment of the creditors was the end to be obtained but it could be obtained only by saving the resources of the municipality—the goose which lays its golden eggs, namely the taxes which alone can meet the outstanding claims."

### FULL FAITH AND CREDIT—NEVADA DIVORCES

In a decision which will have substantial practical results and stir up wide discussion the Supreme Court held that Nevada divorces must be recognized as binding in other states. This case, *Williams v. North Carolina* (Dec. 21), rested upon the Full Faith and Credit Clause of the Constitution. Williams and Mrs. Hendrix each lived with wife and husband in North Carolina. The two went to Las Vegas, Nev., resided for six weeks in a motor court, and each filed a divorce action in the Nevada court. Neither Mrs. Williams nor Mr. Hendrix, remaining in North Carolina, were summoned as defendants by personal service of process, and neither appeared to defend the action. The Nevada court granted the two divorces. Williams and Mrs. Hendrix were married in Nevada on the same day, returned to North Carolina to live as man and wife, and were in due course convicted of "bigamous cohabitation" by a North Carolina court which refused to recognize the validity of the Nevada decrees. North Carolina relied upon *Haddock v. Haddock*, (201 U. S. 562, 1906), which had held that a divorce granted by Connecticut, in which the



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plaintiff husband was domiciled, was not binding in New York because the defendant wife had not been personally served with summons. The *bona fides* of the domicile in Nevada was not squarely attacked by North Carolina with the result that it was assumed by the Supreme Court. Speaking through Mr. Justice Douglas, the Court held that since Williams and Mrs. Hendrix had acquired a domicile in Nevada, the court of that state had jurisdiction over their marital status, and the issuance of the divorce decrees met the requirements of due process. Since this is true, the Full Faith and Credit Clause compels every other state to recognize the decrees, regardless of lack of personal service of summons on the defendant spouses. *Haddock v. Haddock* is overruled. The fact that the new rule permits a state with lax divorce requirements to impose its policies on states with strict ones

is "part of the price of our Federal system." The Court is not concerned with the questions of policy or morals involved in these conflicts of state laws. The opinion of the Court leaves open the possibility of a direct attack in another action on the question of *bona fide* domicile in Nevada.

Mr. Justice Murphy dissented mainly on the ground that the alleged domicile in Nevada was a fraud and a sham insufficient to support jurisdiction. Mr. Justice Jackson dissented at greater length, asserting also that there was lack of *bona fide* domicile, a resulting lack of due process, and therefore no decree which could bind other states. He observes: "It is not an exaggeration to say that this decision repeals the divorce laws of all the states and substitutes the law of Nevada as to all marriages one of the parties to which can afford a short trip there."

## FEDERAL ADMINISTRATIVE AGENCIES

By JOHN A. TILEMA

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### WAR MAN POWER COMMISSION

By executive order of Sept. 17, 1942, the following agencies, functions, duties and powers were transferred to the War Man Power Commission in the Office of Emergency Management in the Executive Office of the President: (a) the United States Employment Service and all functions, duties and powers of the Social Security Board in the Federal Security Agency relating to the employment service; (b) the National Youth Administration in the Federal Security Agency and its functions, duties and powers; (c) the Apprenticeship Training Service in the Office of the Federal Security Administrator and its powers, duties and functions, including those relating to the program to encourage apprentice training in national defense industries; and (d) the Training Within Industry Service in the Office of the Federal Security

Administrator. The Apprenticeship Training Service of the National Youth Administration is to be preserved as an organizational entity within the War Man Power Commission.

### RUBBER DIRECTOR

By executive order of Sept. 17, 1942, the Chairman of the War Production Board was directed to assume full responsibility for and control over the nation's rubber program. The program includes technical research and development, importation, purchase, sale, acquisition, storage, transportation, provision of facilities, conservation, production, manufacturing, processing, marketing, distribution and use of natural and synthetic rubber and related materials. A rubber director is established within the War Production Board to supervise this national rubber pro-



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gram. The rubber director may direct the Rubber Reserve Company and other subsidiaries of the Reconstruction Finance Corporation, the Office of Petroleum Coordination for War, the Board of Economic Warfare, The Office of Defense Transportation, the Office of Price Administration, and the Secretary of Agriculture and other departments and agencies, as he may deem necessary, to execute such aspects of the rubber program in such a manner and for such a time as he may deem advisable.

The rubber director shall supervise the Office of Petroleum Coordination for War in the following activities: (1) conduct of research in the production and manufacture of butadiene from petroleum and natural gas products and the discovery of new production and manufacturing methods; (2) operation of plants producing synthetic rubber, and raw materials made from petroleum and natural gas products.

The Rubber Reserve Company shall, under the direction of the rubber director, act as agent of the Government in the construction of all plants under the rubber program.

### **HIGH COMMISSIONER TO THE PHILIPPINES**

By executive order of Sept. 16, 1942, the functions, powers, and duties of the United States High Commissioner to the Philippines, together with personnel, records, property and funds of the office were transferred to the Secretary of Interior.

### **DIRECTOR OF STABILIZATION**

By executive order of Oct. 3, 1942, there was established in the Office of Emergency Management of the Executive Office of the President an Office of Economic Stabilization under the supervision of a Director of Stabilization. By the same executive order, there was established in the Office of Economic Stabilization an Economic Stabilization Board which is to consist of the Secretary of the Treasury, Secretary of Agriculture, Secretary of Commerce, Secretary of Labor, Chairman of the Board of

Governors of the Federal Reserve System, Director of the Bureau of the Budget, Price Administrator, Chairman of the National War Labor Board, and two representatives each of labor, management, and farming to be appointed by the Director of Economic Stabilization. The Director may invite for consultation the head of any other department or agency.

The Director, with the approval of the President, shall formulate and develop a comprehensive national economic policy relating to civilian purchasing power, prices, rents, wages, salaries, profits, rationing, subsidies, for the purpose of preventing unavoidable increases in the cost of living, minimizing the unnecessary migration of labor from one business, industry, or region to another and facilitating the prosecution of the war. The Director has the power to issue directives on policy to the various Federal departments and agencies.

### **PETROLEUM ADMINISTRATION FOR WAR**

By Executive Order No. 9276, a Petroleum Administration for War was established. The Secretary of Interior shall serve as *ex officio* Petroleum Administrator. As Administrator the Secretary shall establish basic policies and formulate plans and programs to assure a supply for the prosecution of the war, and the conservation and most effective development and utilization of petroleum in the United States, its territories and possessions. The Administrator shall issue necessary policy and operative directives to parties engaged in the petroleum industry and appoint such general, regional, local, or functional petroleum industry committees or councils as the administrator finds necessary. No directive or order may conflict with any issued by the Chairman of the War Production Board.

The Secretary of Interior as Petroleum Administrator shall serve as the liaison and channel of communications between the units of the petroleum industry and the departments and agencies of the Federal Govern-

## FEDERAL ADMINISTRATIVE AGENCIES

ment. He shall obtain from the Departments of War and Navy, the Office of Lend Lease administration, the Department of State, the Board of Economic Warfare, the War Production Board, and other appropriate departments and agencies, estimates of all needs for petroleum. He shall compile and analyze such estimates and submit them to the War Production Board with recommendations. He shall also prepare and recommend to the War Production Board estimates of the quantities and kinds of material needed by the petroleum industry. In determining this amount, transportation needs shall not be included. Subject to the direction of the War Production Board he shall provide adequate supplies of petroleum for military and other essential uses. Furthermore, he shall effect a proper distribution of the materials the war production board may allot.

The Petroleum Administrator shall compile data and survey civilian rationing plans and proposals, consult with the War Shipping Administration on the movement of petroleum, designate the quantity and kinds of petroleum to be shipped and certify such designations to the Office of Defense Transportation, review all plans and proposals for pipe lines, subject to the over-all responsibility of Office of Defense Transportation, advise with the several Federal departments and agencies concerning the construction and enlargement or inter-connection of any natural gas transmission lines.

In addition to all the duties enumerated, the Petroleum Administrator shall certify to state agencies having jurisdiction with respect to the production of petroleum the amounts and kinds of petroleum which should be produced, collaborate with the Federal departments concerning foreign petroleum activities, cooperate with the Rubber Director, and finally, keep the President informed as to the progress of the program.

### TYPHUS COMMISSION

By Executive Order No. 9885 of Dec. 24, 1942, for the purpose of pro-

tecting members of the armed forces from typhus fever and to prevent its introduction into the United States, there was established in the War Department a Typhus Commission. The Commission will serve with the Army of the United States and will consist of a Director appointed by the Secretary of War and such officers of the Army Medical Corp as may be detailed. Also such officers of the Navy Medical Corp and of the Public Health Service as may be detailed by the Secretary of the Navy or the Federal Security Administrator and such other persons as may be appointed members thereof by the Secretary of War, shall serve on the Typhus Commission.

The Director of the Commission is authorized and directed to formulate a program for the study of typhus fever and its control within or without the United States whenever it may become a threat to the military population. The operations of the Commission abroad shall be carried out in collaboration with the Department of State.

### NATIONAL FOOD PROGRAM

As Commander in Chief of the Army and Navy the President by Executive Order No. 9280, effective Dec. 5, 1942, authorized and directed the Secretary of Agriculture to assume full responsibility and control over the nation's food program, the purpose being to insure an adequate supply and efficient distribution of food to meet the war and essential civilian needs. The Secretary is specifically directed to do the following: (a) ascertain military and other governmental and civilian requirements for food for human and animal consumption and for industrial uses; (b) carry out a program to furnish an adequate supply; (c) assign food priorities and make allocations; (d) take steps to secure efficient distribution; (e) purchase and procure food for such Federal agencies as he shall deem necessary and desirable; and (f) recommend to the Chairman of the War Production Board the amounts and types of non-food mate-

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rials and supplies and equipment necessary to carry out the food program.

Whenever the available supply of any food is insufficient to meet both food and industrial needs, the Secretary of Agriculture and the War Production Board shall jointly determine what division shall be made of such food. In case of disagreement the matter shall be referred to the President. The Secretary, after determining the need and the amount of food available for civilian rationing shall through the Office of Price Administration exercise the priorities and allocation powers.

A committee shall be appointed by the Secretary to advise and consult with him. This committee shall be composed of representatives of the State, War, and Navy Departments, Office of Lend Lease Administration, Board of Economic Warfare, War Production Board and such other agencies as the Secretary may determine to be concerned with the food program. The Food Requirements Committee of the War Production Board is abolished.

### **THE FOOD DISTRIBUTION ADMINISTRATION**

To facilitate the effective discharge of the new duties of the Secretary of Agriculture a Food Distribution Administration is created in the Department of Agriculture under the direction of a Director of Food Distribution. The Agricultural Marketing Administration, the Sugar Agency of the Agricultural Conservation and Adjustment Administration and their functions, personnel, and property; the functions, personnel, and property of the Bureau of Animal Industry of the Agricultural Research Administration concerned primarily with regulatory activities; the functions, personnel, and property of the Office of Agricultural War Relations concerned primarily with the distribution of food, are consolidated into the new Agency.

### **THE FOOD PRODUCTION ADMINISTRATION**

Under the control of a Director of Food Production appointed by the

Secretary of Agriculture the following agencies are consolidated in the Food Production Administration: Agricultural Conservation and Adjustment Administration (except the Sugar Agency), Farm Credit Administration, Farm Security Administration, the functions, personnel and property of the Division of Farm Management and those of the Bureau of Agricultural Economics concerned primarily with planning of current agricultural production, and the functions, personnel, and property of the Office of Agricultural War Relations.

### **THE SELECTIVE SERVICE AND THE WAR MAN POWER COMMISSION**

The Selective Service System was transferred to the War Man Power Commission by Executive Order, No. 9279, Dec. 8, 1942. The purpose of the transfer was to promote the most effective mobilization and utilization of the national manpower and to eliminate as far as possible waste of manpower due to disruptive recruitment and the migration of workers. The War Man Power Commission was created by Executive Order No. 9139, dated April 18, 1942. It consists of a Chairman appointed by the President and one representative, subject to the approval of the Chairman, of each of the following departments: War, Navy, Agriculture, Labor, Federal Security Agency, War Production Board, United States Civil Service Commission, National Housing Agency, and a joint representative of the War Shipping Administration and the Office of Defense Transportation designated by the Chairman. The Director of the Selective Service is placed under the control of the Chairman of the War Man Power Commission.

The Chief of Finance, United States Army shall act as fiscal, disbursing and accounting agent. The Secretaries of War and Navy shall monthly, after consultation with the Chairman, determine the number of men needed and these shall be provided by the Chairman through the selective service system. The Chair-



## FEDERAL ADMINISTRATIVE AGENCIES

man shall appoint a Management-Labor Policy Committee to be selected from the fields of labor, agriculture, and industrial management, and shall consult with them. The Chairman is to be an *ex officio* member of the Economic Stabilization Board.

### NATIONAL WAR LABOR BOARD

Four new agencies were created within the Office for Emergency Management of the Executive Office of the President during the year 1942. They were as follows: The National War Labor Board was created Jan. 12, 1942 for the purpose of adjusting labor disputes which affect the prosecution of the war. Disputes may be certified to the Board by the Secretary of Labor, or the Board may take jurisdiction of its own motion after consultation with the Secretary. To settle a dispute the Board may use mediation, voluntary arbitration, or arbitration under rules established by the Board. The Board is composed of 12 special commissioners appointed by the President. Four of the members must be representatives of the public, four of the employees, and four of the employers. The President shall also appoint four alternative members representative of employers and employees to serve in the absence of regular members chosen from these groups. The National Defense Mediation Board established in March 1941 is abolished. Jan. 24, 1942 provision was made for the appointment of associate members of the Board. The Chairman of the Board may assign any case to one or more associate members of the Board who shall mediate as prescribed by the rules.

### WAR PRODUCTION BOARD

This agency was established in the Office for Emergency Management of the Executive Office of the President Jan. 16, 1942. The powers of the Board are vested in its Chairman who, with the advice and assistance of its members, shall exercise general direction over the war procurement and production program; determine the policies, plans, procedures, and

methods of the several Federal agencies relating to war procurement and production, including purchasing, contracting, specifications, construction, conversion, requisitioning, plant expansion and financing. The Board shall perform the functions previously exercised by the Supply Priorities and Allocations Board and determine the total requirements of materials and commodities needed for defense, civilian and other purposes and shall make regulations governing allocations and priorities, and shall supervise the Office of Production Management. All Federal agencies must comply with the policies of the Board in respect to war procurement and production as determined by its Chairman. The Army and Navy Munitions Board is required to report to the President through the Chairman of the War Production Board. The Board, as originally constituted, consists of a Chairman appointed by the President, the Secretaries of War and Navy, the Federal Loan Administrator, the Director General and Associate Director General of the Office of Production Management, the Administrator of the Office of Price Administration, the chairman of the Board of Economic Warfare and the special assistant to the President supervising the defense aid program. The Supply Priorities and Allocations Board and the office of Production Management have been discontinued, and the functions of these two units are now vested in the Chairman of the War Production Board.

### WAR RELOCATION AUTHORITY

This agency was created in the Office for Emergency Management in the Executive Office of the President March 10, 1942. Its purpose is to arrange a program for the relocation, supervisions, and maintenance of aliens removed from designated areas by the military authorities. The War Relocation Authority has a Director appointed by the President, and a Relocation Work Corps, to be composed of persons removed from any area. There is also a Liaison Committee on War Relocation consisting



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of the Secretary of War, Secretary of the Treasury, Attorney General, Secretary of Agriculture, Secretary of Labor, Federal Security Administrator, Director of Civilian Defense, Alien Property Custodian, or their deputies, and such other agencies as the Director may designate. The Committee meets at the call of the Director and assists him in his duties.

### WAR SHIPPING ADMINISTRATION

This is another new agency created in the Office for Emergency Management in the Executive Office of the President Feb. 7, 1942. This agency has the direction of the operations of all vessels under the control of the United States except combatant vessels and those engaged in coastwise transportation under the direction of the Office of Defense Transportation. It shall allocate vessels for use by Federal agencies and the governments of the United Nations, provide marine war risk insurance as authorized by the Merchant Marine Act of 1936, establish conditions for the receipt of priorities, represent the United States in dealing with the shipping agencies of the nations allied with her, and maintain current data on availability of shipping. All functions conferred on the Maritime Commission with respect to the activities mentioned are transferred to the War Shipping Administration.

### OFFICE OF PRICE ADMINISTRATION

This is an agency created by the Emergency Price Control Act of Jan. 30, 1942. It permits the regulation of prices, rents, and market and renting practices. An Administrator is appointed by the President with the advice and consent of the Senate. His office supersedes the former Office of Price Administration in the Office for Emergency Management. The President is authorized to transfer to any other agency any of the powers with respect to particular commodities relating to priorities or rationing conferred by law upon any other agency. However, certain powers may not be

transferred to the Office of Price Administration, namely, any conferred by law upon the Secretary of Agriculture, and any relating to agricultural commodities, except those relating to priorities or rationing, conferred by law upon any other agency. All powers under the Emergency Price Control Act will expire on June 30, 1943. They may be terminated earlier by a proclamation of the President, or by a concurrent resolution of the two houses of Congress.

### UNITED STATES INFORMATION SERVICE

By executive order of June 13, 1942, this service was transferred and consolidated along with other functions of the Office of Government Reports into the Office of War Information.

### NATIONAL HOUSING AGENCY

This agency was created by the President Feb. 24, 1942. Into it are consolidated a long list of housing agencies formerly administered in connection with other authorities. All housing activities and functions formerly carried on by the consolidated agencies are now administered within the framework of the National Housing Agency, under the direction and supervision of the National Housing Administrator. Executive Order No. 9070 established three principal constituent units within the Agency—Federal Home Loan Bank Administration, Federal Housing Administration and Federal Public Housing Authority.

In addition to supervising and directing the activities of the three constituent units, the Administrator and his staff perform a special function arising out of the war effort. In cooperation with the War Production Board, the War Man Power Commission, and other Federal agencies, the Office of the Administrator determines the need for housing for war workers in the areas where a shortage of housing exists or impends, which threatens to impede the War Program and devises ways and means of supplying such need. This func-

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tion includes surveys of individual communities; compilation of employment and housing data from both public and private sources; negotiation of priority ratings for materials; and finally, in the light of all the various factors, a determination of (a) the proportion of the housing need for each community which can be met through a more complete utilization of existing housing facilities, (b) the proportion which can be supplied by private builders through new construction, and (c) the proportion of the remaining need absolutely essential to the war effort and which must, therefore, be supplied by publicly financed housing. Under the direction of the Homes Utilization Division of the National Housing Agency, more than 300 homes registration offices are in operation in war industry communities. These offices, in general locally financed and managed, maintain current listings of vacancies of existing homes, apartments, and rooms to which they direct incoming war workers.

### ARMY REORGANIZATION

By Executive Order No. 9082, effective March 9, 1942, the following units were provided for under the Chief of Staff: (a) a ground force, under Commanding General Army Ground Forces to which are transferred the coast artillery (except duties pertaining to procurement, storage, and issue), infantry, cavalry, and field artillery corps; (b) an air force, under Commanding General Army Air Forces, to which are transferred the duties of the Commanding General, General Headquarters Air Force, and of the Chief of the Air Corps; (c) a service of supply, under a Commanding General Service of Supply, to which are transferred the duties of the Chief of Coast Artillery relating to procurement, storage, and issue; (d) such overseas departments, task forces, base commands, defense commands, and other commands as the Secretary of War may find necessary. This order is to remain in effect during the war and for six months thereafter.

### FEDERAL DEPOSIT INSURANCE CORPORATION

By executive order of April 27, 1942, the Federal Credit Union System, and all powers, functions, and duties of the Farm Credit Administration under the Federal Credit Union Act were transferred to the Federal Deposit Insurance Corporation.

### BUREAU OF THE BUDGET

The Federal Board of Surveys and Maps which was established by executive order of Dec. 30, 1919, to coordinate and promote improvement of surveying and mapping activities of the Government, was abolished, and the functions were transferred to the Bureau of the Budget.

### DEPARTMENT OF COMMERCE

By executive order of Feb. 24, 1942, the following agencies were transferred to the Department of Commerce: Electric Home and Farm Authority which had been grouped with other agencies to form the Federal Loan Agency by the reorganization plan of 1939; Export-Import Bank of Washington, and Disaster Loan Corporation which had been similarly grouped with the Federal Loan Agency.

### BUREAU OF CUSTOMS

By executive order of March 1, 1942, the functions relating to the award of numbers to undocumented vessels were transferred from the Collector of Customs to the Commandant of the Coast Guard. By the same order the Bureaus of Marine Inspection and Navigation were divided between the Coast Guard and the Bureau of Customs, both of which agencies are now under the Department of the Navy for the duration of the war.

### DEPARTMENT OF AGRICULTURE

By executive order of Feb. 23, 1942, the Agricultural Adjustment Administration, which was created in 1939, was consolidated into the Agricultural Conservation and Adjustment Administration; the Agricultural

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Marketing Service was merged into the Agricultural Marketing Administration; the Agricultural Statistics Division of the Marketing Service was transferred to the Bureau of Ag-

ricultural Economics. All the functions, powers, and duties of the Farm Security Administration relating to housing were transferred to the National Housing Agency.

### ELECTIONS OF 1942

BY THOMAS N. HOOVER  
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#### THE 78TH CONGRESS

The 77th Congress when it came into existence following the election of 1940 had in the Senate 66 Democrats, 28 Republicans, one Progressive, and one Independent; in the House of Representatives, 268 Democrats, 162 Republicans, three Progressives, one Farmer-Labor, and one American Labor. The 78th Congress, elected in the fall of 1942, finds 57 Democrats, 38 Republicans, and one Progressive in the Senate, a net gain of ten for the Republicans. In the House of Representatives are 222 Democrats, 209 Republicans, two Progressives, one American Labor, and one Farmer-Labor, a net gain of 47 for the Republicans. A change of 802 votes in the five closest districts carried by the Democrats would have lost for them the control of the House.

#### GOVERNORS

The Republicans made a net gain of nine governorships. The great shift to the Republicans was nationwide and must be interpreted as opposition to the Roosevelt New Deal Administration. The states that went Republican furnish 328 electoral votes for President. This would indicate a Republican president in 1944. Several Republicans emerged from the election as possible candidates for the presidency. The one most frequently mentioned was John W. Bricker elected to a third successive term as Governor of Ohio by almost 400,000 majority.

#### STATE ISSUES

**Arizona.**—An initiative measure re-

lating to revenue and taxation was approved, 24,818 to 19,915.

**Arkansas.**—An amendment to provide for Junior Colleges was rejected, 48,441 to 32,469. An amendment to provide for maintenance of public hospitals was approved, 40,292 to 38,682. An amendment providing for a Fish and Game Commission was rejected, 51,934 to 28,593. An amendment relating to terms of certain board members was approved, 39,756 to 38,167. An act to prohibit the practice of law other than by a licensed attorney was rejected, 53,662 to 25,410, and an act for better local option was approved, 52,830 to 41,040.

**California.**—Eighteen proposals were submitted to the voters, seven only of which were approved. These related to secondary boycott, taxation of insurance companies, use of fish and game funds, regulation of boxing and wrestling matches, school districts to acquire stock in mutual water companies, state treasurer to be trustee of certain state funds, and a reapportionment commission.

**Colorado.**—An amendment relating to sessions of the state legislature and a referendum in legislature acts was rejected, 73,648 to 72,547.

**Florida.**—There were nine proposals for amendments to the constitution of the state submitted to the voters, six of which were approved.

**Idaho.**—The Senior Citizens' Grants Act, initiated by petition, was approved, 75,090 to 35,344. A constitutional amendment relating to the sale of school lands at \$5 per acre was approved, 54,892 to 47,158. An amendment to provide that the legislature establish a non-partisan board

## ELECTIONS OF 1942

of correction was approved, 55,110 to 34,286. A proposal to abolish the Board of State Prison Commissioners was rejected, as was also one relating to the Governor's pardoning power.

**Illinois.**—An amendment to Section 1 of Article IX of the constitution was approved, 979,892 to 346,232.

**Iowa.**—An amendment providing that motor vehicle registration fees and taxes on vehicle fuel be used for highway purposes was approved, 433,917 to 56,472. By a vote of 433,917 to 56,472, a constitutional amendment was ratified limiting the use of certain fees and taxes to highway purposes.

**Louisiana.**—Ten proposals for amendments to the constitution were submitted, all of which were approved. Seven of these pertained to taxation and bond issues. One pertained to number and apportionment of members of the state House of Representatives. Public aid to business enterprises was another. Still another related to consolidated Gravity Drainage Districts.

**Maryland.**—Amendments to the constitution approved related to qualifications and selection of judges, salaries of clerks of the court and register of wills, state roads, length of sessions of the General Assembly, and juvenile courts. Proposals rejected related to advertisement of amendments to the constitution, and gifts to religious sects.

**Massachusetts.**—An initiated measure relative to birth control was rejected, 683,059 to 495,964. By a vote of 717,033 to 467,133, the voters approved the pari-mutuel system of betting on horse races, but voted 637,122 to 503,611 for betting on dog races. A public policy proposal relating to a Democratic World Government was approved.

**Michigan.**—The proposal for a constitutional convention was rejected by a vote of 468,506 to 408,188. A proposed amendment to the state constitution permitting Wayne County to adopt a charter was defeated, 455,320 to 432,164. A state milk marketing act was referred to the voters, and was rejected, 585,380 to 318,899.

**Minnesota.**—A proposal to amend the constitution relative to the investment of permanent University funds was approved, 415,012 to 190,563. A proposal relative to simplifying the publication of home rule charters was approved, 459,868 to 144,842.

**Mississippi.**—An amendment relating to school lands was approved, 42,750 to 9,295. An amendment to create a board of trustees of state institutions of higher learning was approved, 44,785 to 7,260.

**Missouri.**—Three amendments were added to the constitution. One related to taxes for school purposes, one to rates of taxation. The third amendment provides for a \$125 monthly salary for members of the General Assembly. A proposal relating to the selection of judges was rejected.

**Montana.**—An amendment to the state constitution providing for a seven-member state Board of Education to be appointed by the Governor was rejected, 52,317 to 38,543. An amendment to provide for four-year terms for certain county and township officers was rejected, 52,121 to 37,321. Two referendum measures relating to an increase in the debt limitation were rejected, one by vote of 56,509 to 28,664 and the other by 58,921 to 25,027.

**Nebraska.**—A proposed amendment to provide for optional form of county government was rejected, 160,801 to 125,513.

**Nevada.**—A proposal submitted was approved, 20,066 to 6,122. There was no indication as to the content of the proposal.

**New Mexico.**—Six proposals to amend the state constitution were submitted, all of which were rejected.

**North Carolina.**—An amendment providing for a state board of education was approved, 148,517 to 109,798. A proposal relating to senatorial districts was approved, 107,702 to 92,883.

**North Dakota.**—A referred measure requiring the posting of butter fat prices at creameries was approved, 92,344 to 56,589. An initiated measure prohibiting the sale of alcoholic



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liquors in public eating places was rejected, 85,733 to 84,049.

**Ohio.**—A proposed amendment to the effect that vacancies in judicial office of one year or less duration be filled by appointment by the Governor was approved, 954,704 to 448,981.

**Oregon.**—Four amendments to the state constitution, all proposed by the legislature, were submitted to the voters. One relating to Legislators' Compensation was approved, 129,318 to 109,898. One to repeal Rural Credits Loan Fund was approved, 101,425 to 88,857. One relating to exclusive use of gasoline and motor vehicle taxes was approved, 125,990 to 86,332. One relating to voting was rejected, 103,404 to 101,508. A cigarette tax bill was rejected, 127,366 to 110,643. A bill restricting fishing rights was rejected, 137,177 to 97,212. An initiated bill relating to school funds was approved, 136,321 to 92,623.

**South Carolina.**—An amendment relating to bonded indebtedness in Orangeburg County was approved, 9,775 to 2,031.

**South Dakota.**—Five proposals were submitted to the voters, all of which were rejected.

**Utah.**—A proposed amendment to the state constitution relating to compensation of members of the legislature was rejected, 59,127 to 32,638. An act providing for chain store license taxes was rejected, 91,271 to 40,496.

**Vermont.**—An act to make men and women equally eligible for jury service was approved, 35,388 to 20,306.

**Washington.**—An old age pension proposal to repeal the act of 1941 was rejected, 225,027 to 160,084. An act relating to industrial insurance was approved, 246,257 to 108,845. Two acts relating to the duties of prosecuting attorneys were rejected. An act relating to taxation was approved, 252,431 to 75,540. A proposal to amend the constitution relating to income taxes was rejected, 176,332 to 89,453.

**West Virginia.**—A good roads amendment was approved, 228,828 to 38,651.

### ALABAMA

<i>U. S. Senator</i>		
John H. Bankhead.....	Dem.....	69,212
<i>Representatives in Congress</i>		
1. Frank W. Boykin.....	Dem.....	5,600
2. George Grant.....	Dem.....	6,672
3. Henry B. Steagall.....	Dem.....	5,043
4. Sam Hobbs.....	Dem.....	7,468
5. Joe Starnes.....	Dem.....	11,841
6. Pete Jarman.....	Dem.....	7,566
7. Carter Manasco.....	Dem.....	9,788
8. John J. Sparkman.....	Dem.....	5,954
9. John P. Newsome.....	Dem.....	8,802
C. R. Holliman.....	Rep.....	378

### ARIZONA

<i>Governor</i>		
Sidney P. Osborn.....	Dem.....	63,484
Jerrie W. Lee.....	Rep.....	23,562
<i>Representatives in Congress</i> (two elected at large)		
Richard F. Harless.....	Dem.....	56,357
John R. Murdock.....	Dem.....	55,825
George R. Darnell.....	Rep.....	23,015
Joseph S. Jenckes.....	Rep.....	18,205

### ARKANSAS

<i>Governor</i>		
Homer M. Adkins.....	Dem.....	98,871
<i>U. S. Senator</i>		
John L. McClellan.....	Dem.....	99,124
<i>Representatives in Congress</i>		
1. E. C. Gathings.....	Dem.....	13,997
2. Wilbur D. Mills.....	Dem.....	11,380

## ELECTIONS OF 1942

3. J. W. Fulbright.....	Dem.....	16,111
4. Fadio Cravens.....	Dem.....	14,739
5. Brooks Hays.....	Dem.....	16,850
6. W. F. Norrell.....	Dem.....	13,166
7. Oren Harris.....	Dem.....	12,108

### CALIFORNIA

#### *Governor*

Earl Warren.....	Rep.....	1,275,287
Culbert L. Olson.....	Dem.....	932,995
Nathan T. Porter.....	Twd.....	15,501
Fred Dyster.....	Prohib.....	10,640

#### *Representatives in Congress*

1. Clarence F. Lea.....	Dem., Rep.....	78,281
Albert J. Lima.....	Com.....	5,703
2. Harry L. Englebright.....	Rep., Dem., Twd.....	50,094
3. J. Leroy Johnson.....	Rep.....	63,982
Joseph B. O'Neil.....	Dem.....	53,521
4. Thomas Ralph.....	Rep., Dem.....	62,735
Archie Brown.....	.....	1,116
5. Richard J. Welch.....	Rep., Dem.....	85,747
Walter R. Lambert.....	Com.....	6,749
6. Albert E. Carter.....	Rep., Dem.....	108,585
Clarence Paton.....	Com.....	8,532
7. John T. Tolan.....	Dem., Rep.....	77,292
8. John Z. Anderson.....	Rep., Dem.....	91,536
9. Bertrand W. Gearhart.....	Rep., Dem.....	65,791
10. A. J. Elliott.....	Dem., Rep.....	43,864
11. George E. Outland.....	Dem.....	31,611
A. J. Dingeman.....	Rep.....	30,781
12. H. Jerry Voorhis.....	Dem.....	53,705
Robert P. Shuler.....	Prohib., Rep.....	40,780
13. Norris Poulson.....	Rep.....	38,577
Charles Kramer.....	Dem.....	33,060
Calvert S. Wilson.....	Twd.....	6,306
14. Thomas F. Ford.....	Dem.....	49,326
Herbert L. Herberts.....	Rep.....	24,349
15. John M. Costello.....	Dem., Rep.....	88,798
B. T. Dowden.....	Prohib., Twd.....	10,185
Philip Gardner.....	Com.....	3,989
16. Will Rogers, Jr.....	Dem.....	61,437
Leland M. Ford.....	Rep.....	52,023
Allen L. Ryan.....	Com.....	1,403
17. Cecil R. King.....	Dem., Rep.....	92,260
18. Ward Johnson.....	Rep.....	53,136
Francis H. Gentry.....	Dem.....	40,339
19. Chet Holifield.....	Dem.....	34,918
Carlton H. Casjens.....	Rep.....	20,446
20. Carl Hinshaw.....	Rep.....	62,628
Joseph O. Donovan.....	Dem.....	55,479
Virgil G. Hinshaw.....	Prohib.....	6,864
Janie Belle McCarty.....	Twd.....	3,537
21. Harry R. Sheppard.....	Dem., Rep.....	38,419
22. John Phillip.....	Rep.....	42,765
N. E. West.....	Dem.....	31,440
23. E. V. Izac.....	Dem.....	42,864
James B. Abbey.....	Rep.....	42,087

### COLORADO

#### *Governor*

John C. Vindan.....	Rep.....	194,041
Homer F. Bedford.....	Dem.....	149,402
Wm. Dietrich.....	Com.....	1,232

#### *U. S. Senator*

Edwin C. Johnson.....	Dem.....	174,612
Ralph L. Carr.....	Rep.....	170,970
Carle Whitehead.....	Soc.....	1,387

#### *U. S. Senator (to fill vacancy)*

Eugene P. Milliken.....	Rep.....	191,517
James A. Marsh.....	Dem.....	143,187
Lewis H. Tiley.....	Ind.....	4,262
E. P. Sherman.....	Soc.....	1,664

# I. AMERICAN POLITICAL HISTORY

## Representatives in Congress

1. Lawrence Lewis	Dem.	58,143
O. H. Jacobson	Rep.	50,083
2. Wm. S. Hill	Rep.	64,984
J. E. Hall	Dem.	30,485
3. J. Edgar Chenoweth	Rep.	55,838
J. C. Garrett	Dem.	33,154
4. Robert F. Rockwell	Rep.	28,460
Elizabeth Pellet	Dem.	19,979

## CONNECTICUT

### Governor

Raymond E. Baldwin	Rep.	281,362
Robert A. Hurley	Dem.	255,166
Stanley W. Mahew	Soc.	28,492
Frank Venezio	Soc.-Lab.	3,859

### Representatives in Congress

1. Wm. J. Miller	Rep.	72,306
Herman P. Kopplemann	Dem.	68,435
2. John D. McWilliams	Rep.	46,426
Wm. J. Fitzgerald	Dem.	43,934
3. Ranulf Compton	Rep.	57,612
James A. Shanley	Dem.	53,825
4. Clare Boothe Luce	Rep.	63,719
LeRoy D. Downs	Dem.	57,861
David Mansell	Soc.	15,573
5. Joseph E. Talbot	Rep.	42,602
Wm. A. Patten	Dem.	36,327

## DELAWARE

### U. S. Senator

Clayton D. Buck	Rep.	46,210
E. E. Berl	Dem.	38,322

### Representative in Congress

Earl D. Willey	Rep.	45,376
Philip A. Traynor	Dem.	38,791

## FLORIDA

### Congressman at large

Lex Green	Dem.	91,120
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### Representative in Congress

1. J. H. Peterson	Dem.	25,037
2. Emory H. Price	Dem.	15,777
3. Bob Sikes	Dem.	11,739
4. Pat Cannon	Dem.	25,056
Bert L. Acker	Rep.	5,725
5. Joe Hendricks	Dem.	16,850
Emory Akerman	Rep.	6,906

## GEORGIA

### Governor

Ellis Arnall	Dem.	(Votes not available)
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### U. S. Senator

Richard B. Russell	Dem.	59,870
Mrs. LeVert D. Shivers	Ind.	1,892

### Representatives in Congress

1. Hugh Peterson	Dem.	6,980
2. E. E. Cox	Dem.	3,793
3. Stephen Pace	Dem.	4,824
4. Sidney Camp	Dem.	5,106
5. Robert Ramspeck	Dem.	9,176
6. Carl Vinson	Dem.	5,725
7. Malcolm Tarver	Dem.	5,172
8. John Gibson	Dem.	4,785
9. B. Frank Wheelchel	Dem.	7,394
Roscoe Pickett	Ind.	3,013
10. Paul Brown	Dem.	5,393

# ELECTIONS OF 1942

## IDAHO

<i>Governor</i>		
C. A. Bottolisen	Rep.	72,260
Chase A. Clark	Dem.	71,826
<i>U. S. Senator</i>		
John Thomas	Rep.	73,353
Glen H. Taylor	Dem.	68,989
<i>Representatives in Congress</i>		
1. Compton L. White	Dem.	30,105
H. C. Baldrige	Rep.	25,562
2. Henry Divorshak	Rep.	45,805
Ira H. Masters	Dem.	37,815

## ILLINOIS

<i>U. S. Senator</i>		
C. Wayland Brooks	Rep.	1,582,887
R. S. McKeough	Dem.	1,380,011
E. A. Holtwich	Pro.	10,331
<i>Congressman at large</i>		
Stephen A. Day	Rep.	1,481,419
B. S. Adamowski	Dem.	1,395,053
Elizabeth S. Carr	Pro.	11,160
<i>Representatives in Congress</i>		
1. William L. Dawson	Dem.	26,280
William E. King	Rep.	23,537
2. William A. Rowan	Dem.	110,069
Thomas J. Downs	Rep.	106,552
3. Fred E. Busbey	Rep.	115,390
Edward A. Kelly	Dem.	109,409
4. Martin Gorski	Dem.	60,623
Arthur Jos. Rutshaw	Rep.	16,396
5. Adolph J. Sabath	Dem.	29,167
Clem Graver	Rep.	11,255
6. Thomas J. O'Brien	Dem.	149,342
Raymond E. Trafelet	Rep.	110,823
7. Leonard W. Schuetz	Dem.	179,906
James C. Moreland	Rep.	177,931
8. Thomas S. Gordon	Dem.	33,425
Rena E. Pikiel	Rep.	8,995
9. Charles S. Dewey	Rep.	40,803
Irwin N. Walker	Dem.	38,679
10. Ralph E. Church	Rep.	150,558
Jack Bairstow	Dem.	88,266
11. Joseph Sam Perry	Dem.	39,829
Chauncey W. Reed	Rep.	97,316
12. Noah M. Mason	Rep.	68,426
Tony R. Berretini	Dem.	27,405
13. Leo E. Allen	Rep.	48,500
Michael M. Kinney	Dem.	12,596
14. Anton J. Johnson	Rep.	47,294
Robert M. Harper	Dem.	32,450
15. Robert B. Chiperfield	Rep.	48,677
Montgomery B. Carrott	Dem.	29,741
16. Everett M. Dirksen	Rep.	55,135
James D. Carrigan	Dem.	24,969
17. Leslie C. Arends	Rep.	44,563
Frank Gillespie	Dem.	17,023
18. Jesse Sumner	Rep.	51,281
Fred E. Butcher	Dem.	30,852
19. William H. Wheat	Rep.	56,657
Alfred D. Huston	Dem.	42,171
20. Sid Simpson	Rep.	31,360
James M. Barnes	Dem.	30,131
21. Evan Howell	Rep.	54,585
William P. Roberts	Dem.	39,318
22. Calvin D. Johnson	Rep.	67,313
Harry C. Odum	Dem.	53,470
23. Charles W. Vursell	Rep.	47,526
Laurence F. Arnold	Dem.	42,736
24. James V. Heidinger	Rep.	37,008
LeRoy Barham	Dem.	26,377
25. C. W. (Runt) Bishop	Rep.	49,965
Kent E. Keller	Dem.	40,762



# I. AMERICAN POLITICAL HISTORY

## INDIANA

### *Representatives in Congress*

1. Ray J. Madden.....	Dem.	44,334
Samuel W. Cullison.....	Rep.	38,450
2. Charles A. Halleck.....	Rep.	63,120
Emmett Ferguson.....	Dem.	39,943
3. Robert A. Grant.....	Rep.	63,434
Lewis J. Murphy.....	Dem.	53,992
4. George W. Gillie.....	Rep.	61,032
Samuel C. Cleland.....	Dem.	39,032
5. Forest A. Harness.....	Rep.	80,464
Edward C. Hays.....	Dem.	63,989
6. Noble J. Johnson.....	Rep.	65,764
Floyd I. McMurray.....	Dem.	47,363
7. Gerald W. Landis.....	Rep.	69,044
O. A. Noland.....	Dem.	52,386
8. Charles M. La Follette.....	Rep.	67,237
John W. Boehne, Jr.....	Dem.	57,868
9. Earl Wilson.....	Rep.	55,949
Roy Huckleberry.....	Dem.	44,096
10. Raymond S. Springer.....	Rep.	67,201
William H. Larrabee.....	Dem.	49,963
11. Louis Ludlow.....	Dem.	79,932
Howard M. Meyer.....	Rep.	79,136

## IOWA

### *Governor*

Bourke B. Hickenlooper.....	Rep.	432,505
Nelson G. Kraschel.....	Dem.	255,584

### *U. S. Senator*

George A. Wilson.....	Rep.	410,383
Clyde L. Herring.....	Dem.	295,194
M. M. Heptonstall.....	Prohib.	1,461
Ernest J. Seemann.....	New Dealer	821

### *Representatives in Congress*

1. Thomas E. Martin.....	Rep.	55,139
Vern W. Nall.....	Dem.	32,893
John A. Huglin.....	N. R.	1,705
2. Henry O. Talle.....	Rep.	62,290
Wm. S. Jacobsen.....	Dem.	46,310
3. John W. Gwynne.....	Rep.	54,124
Wm. D. Kearney.....	Dem.	35,065
4. Karl M. LeCompte.....	Rep.	52,258
Thomas L. Curran.....	Dem.	28,745
5. Paul Cunningham.....	Rep.	48,578
E. Frank Fox.....	Dem.	28,287
6. Fred C. Gilchrist.....	Rep.	46,843
Edward Breen.....	Dem.	30,802
7. Ben F. Jensen.....	Rep.	49,086
Jess Alton.....	Dem.	27,409
8. Charles B. Hoeven.....	Rep.	42,154
Vincent F. Harrington.....	Dem.	23,059

## KENTUCKY

### *U. S. Senator*

Albert B. Chandler.....	Dem.	216,958
Richard J. Colbert.....	Rep.	175,081

### *Representatives in Congress*

1. Noble J. Gregory.....	Dem.	17,027
Walter L. Prince.....	Rep.	8,195
2. B. M. Vincent.....	Dem.	21,866
3. Emmett O'Neal.....	Dem.	39,866
Jouett Ross Todd.....	Rep.	32,404
4. Edward W. Creal.....	Dem.	23,871
Don V. Drye.....	Rep.	19,015
5. Brent Spence.....	Dem.	18,510
Lewis R. Kimberly.....	Rep.	12,073
Ed Wimmer.....	Ind.	3,806
Jerome Bihl.....	Ind.	227

## ELECTIONS OF 1942

6. Virgil Chapman.....	Dem.....	27,832
7. A. J. May.....	Dem.....	22,160
Elmer E. Gabbard.....	Rep.....	21,620
8. Joe B. Bates.....	Dem.....	22,499
F. A. Easterling.....	Rep.....	17,644
9. John M. Robsion.....	Rep.....	34,440

### LOUISIANA

<i>U. S. Senator</i>		
Allen J. Ellender.....	Dem.....	85,488
<i>Representatives in Congress</i>		
1. F. Edw. Hebert.....	Dem.....	20,973
2. Paul H. Maloney.....	Dem.....	19,007
3. James Domengeaux.....	Dem.....	6,260
4. Overton Brooks.....	Dem.....	7,184
5. Chas. E. McKenzie.....	Dem.....	7,949
6. James H. Morrison.....	Dem.....	9,313
7. Henry D. Larcade, Jr.....	Dem.....	6,201
8. A. Leonard Allen.....	Dem.....	8,100

### MAINE

<i>U. S. Senator</i>		
Wallace H. White, Jr.....	Rep.....	111,520
Fulton J. Redman.....	Dem.....	55,754
<i>Representatives in Congress</i>		
1. Robert Hale.....	Rep.....	38,128
Louis J. Brann.....	Dem.....	28,759
2. Margaret Chase Smith.....	Rep.....	42,062
Bradford C. Redonnett.....	Dem.....	30,164
3. Frank Fellows.....	Rep.....	31,728

### MARYLAND

<i>Governor</i>		
Herbert R. O'Connor.....	Dem.....	198,488
Theodore R. McKeldin.....	Rep.....	179,204
<i>Representatives in Congress</i>		
1. David J. Ward.....	Dem.....	25,270
Wm. H. Lloyd.....	Rep.....	19,938
2. H. Streett Baldwin.....	Dem.....	57,865
George R. Norris.....	Rep.....	35,228
3. Thomas D. Alexandro, Jr.....	Dem.....	20,450
Edwin S. Panetti.....	Rep.....	7,469
4. Daniel Ellison.....	Rep.....	22,673
Joseph M. Wyatt.....	Dem.....	21,845
5. Lansdale G. Sasser.....	Dem.....	33,191
John H. Torvesteo.....	Rep.....	16,596
6. J. Glenn Bell.....	Rep.....	45,724
E. Brooke Lee, Jr.....	Dem.....	31,187

### MASSACHUSETTS

<i>Governor</i>		
Leverett Sattonstall.....	Rep.....	758,402
Roger L. Putnam.....	Dem.....	630,265
O. A. Hood.....	Com.....	4,641
Joseph Massidda.....	Soc.....	3,119
H. A. Blomen.....	Soc.-Lab.....	3,090
Guy S. Williams.....	Prohib.....	1,898
<i>U. S. Senator</i>		
Henry Cabot Lodge, Jr.....	Rep.....	721,239
Joseph E. Casey.....	Dem.....	641,042
G. L. Paine.....	Soc.....	4,802
H. I. Hillis.....	Soc.-Lab.....	4,781
G. L. Thompson.....	Prohib.....	3,577
<i>Representatives in Congress</i>		
1. Allen T. Treadway.....	Rep.....	50,302
Frank Hurley.....	Dem.....	36,257
2. Charles R. Clason.....	Rep.....	58,781
John J. Granfield.....	Dem.....	36,675

## I. AMERICAN POLITICAL HISTORY

3.	Philip J. Philbin.....	Dem.	46,412
	Alfred Woollacott.....	Rep.	45,689
4.	Pehr G. Holmes.....	Rep.	57,323
	John S. Sullivan.....	Dem.	42,895
5.	Edith Louise Rogers.....	Rep.	95,231
6.	George J. Bates.....	Rep.	68,739
	James D. Burns.....	Dem.	22,523
7.	Thomas J. Lane.....	Rep.	68,073
8.	Angier L. Goodwin.....	Rep.	57,016
	Frederick T. McDermott.....	Dem.	44,401
9.	Charles L. Gifford.....	Rep.	50,902
	George F. Backus.....	Dem.	35,633
10.	Christian A. Herter.....	Rep.	64,247
	Wm. A. Carey.....	Dem.	61,359
11.	James M. Curley.....	Dem.	60,850
	Vincent Mottola.....	Rep.	27,008
12.	John W. McCormick.....	Dem.	76,043
	Francis P. O'Neill.....	Rep.	20,600
13.	Richard B. Wigglesworth.....	Rep.	62,608
	Francis H. Foy.....	Dem.	42,995
14.	Joseph William Martin, Jr.....	Rep.	54,977
	Terrance J. Lomax.....	Dem.	37,598

### MICHIGAN

#### *Governor*

Harry F. Kelly.....	Rep.	645,143
Murray D. VanWagoner.....	Dem.	573,314
Frederic S. Goodrich.....	Prohib.	8,065

#### *U. S. Senator*

Homer Ferguson.....	Rep.	589,652
Prentiss M. Brown.....	Dem.	561,595
LeRoy M. Lowell.....	Prohib.	6,526
Gerald L. Smith.....	Ind.-Rep.	32,173

#### *Representatives in Congress*

1.	George G. Sadowski.....	Dem.	48,620
	John B. Sosnowski.....	Rep.	13,691
2.	Earl C. Michener.....	Rep.	40,439
	Redmond M. Burr.....	Dem.	23,277
	Adelaide Sewell.....	Prohib.	364
3.	Paul Shafer.....	Rep.	41,002
	Harold E. Steinbacher.....	Dem.	20,334
	George A. Brown.....	Prohib.	1,072
4.	Clare E. Hoffman.....	Rep.	42,653
	Dean Morley.....	Dem.	19,065
	Ora H. Fox.....	Prohib.	436
5.	Bartel J. Jonkman.....	Rep.	37,020
	Herman J. Wierenga.....	Dem.	30,840
	Fenno E. Densmore.....	Prohib.	680
6.	William W. Blackney.....	Rep.	48,364
	David M. Martin.....	Dem.	34,893
	Daniel T. Perrine.....	Prohib.	671
7.	Jesse P. Wolcott.....	Rep.	46,946
	LeRoy S. Wilson.....	Dem.	22,775
8.	Fred L. Crawford.....	Rep.	45,182
	Michael J. Hart.....	Dem.	21,689
	James L. Hazeldine.....	Prohib.	641
9.	Albert J. Engel.....	Rep.	34,548
	Arnold B. Coxhill.....	Dem.	17,954
	Alfred T. Halsted.....	Prohib.	324
10.	Roy O. Woodruff.....	Rep.	31,895
	John E. Morrison.....	Dem.	20,852
	Gustov W. Malm.....	Prohib.	291
11.	Fred Bradley.....	Rep.	32,579
	Paul L. Adams.....	Dem.	23,555
12.	John B. Bennett.....	Rep.	31,643
	Frank E. Hook.....	Dem.	27,983
	Andrew Asikainen.....	Prohib.	1,795
13.	George D. O'Brien.....	Dem.	33,807
	Clarence J. McLeod.....	Rep.	32,298
14.	Louis C. Rabaut.....	Dem.	50,707
	Claude G. McDonald.....	Rep.	35,638
15.	John D. Dingell.....	Dem.	52,384
	Ivan L. Bowman.....	Rep.	28,694
16.	John Lesinski.....	Dem.	42,911
	Robert W. Ford.....	Rep.	30,480

# ELECTIONS OF 1942

17. George A. Dondero.....	Rep.....	56,607
Dorothy K. Roosevelt.....	Dem.....	43,036

## MINNESOTA

### Governor

Harold E. Stassen.....	Rep.....	409,800
Hjalmar Petersen.....	F.-L.....	299,917
John D. Sullivan.....	Dem.....	75,151
Martin Mackie.....	Com.....	5,082
Harris A. Brandborg.....	Indust.....	4,278

### U. S. Senator

Joseph H. Ball.....	Rep.....	356,297
Elmer A. Benson.....	F.-L.....	213,965
Ed Murphy.....	Dem.....	78,959
Martin A. Nelson.....	Ind.-Prog.....	109,226

### U. S. Senator (short term)

Arthur E. Nelson.....	Rep.....	372,240
Al Hansen.....	F.-L.....	177,008
John E. O'Rourke.....	Dem.....	114,086

### Representatives in Congress

1. August H. Andresen.....	Rep.....	58,387
Harold R. Atwood.....	Dem.....	29,771
2. Joseph P. O'Hara.....	Rep.....	60,028
R. J. Neunsinger.....	Dem.....	13,866
Charles D. Petersen.....	F.-L.....	11,819
3. Richard P. Gale.....	Rep.....	44,662
Charles Munn.....	F.-L.....	29,936
Wm. J. Gallagher.....	Dem.....	16,505
4. Melvin J. Maas.....	Rep.....	45,903
Wm. Mahoney.....	F.-L.....	17,071
E. K. Delaney.....	Dem.....	6,938
5. Walter H. Judd.....	Rep.....	60,883
Joseph Gilbert.....	F.-L.....	18,566
Thomas P. Ryan.....	Dem.....	15,976
6. Harold Knutson.....	Rep.....	49,295
E. Thomas O'Brien.....	Dem.....	36,770
7. H. Carl Andersen.....	Rep.....	46,570
Theodor S. Slen.....	Dem.....	21,192
Francis H. Shoemaker.....	F.-L.....	17,241
8. Wm. A. Pittenger.....	Rep.....	51,803
Rudolph Rautio.....	F.-L.....	21,286
E. J. Larsen.....	Dem.....	10,284
S. B. Ruohoniemi.....	Dem.....	5,148
9. Harold C. Hagen.....	F.-L.....	35,265
John W. Padden.....	Rep.....	34,661

## MISSISSIPPI

### U. S. Senator

James O. Eastland.....	Dem.....	51,355
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### Representatives in Congress

1. John E. Rankin.....	Dem.....	7,079
2. James L. Whitten.....	Dem.....	6,604
3. W. M. Whittington.....	Dem.....	4,646
4. Thos. G. Abernethy.....	Dem.....	5,660
5. W. A. Winstead.....	Dem.....	10,548
6. W. M. Coler.....	Dem.....	7,462
7. Dan R. McGehee.....	Dem.....	9,603

## MISSOURI

### Representatives in Congress

1. Wat Arnold.....	Rep.....	41,809
M. A. Ronjue.....	Dem.....	33,465
2. Max Schwabe.....	Rep.....	37,631
W. L. Nelson.....	Dem.....	37,069
3. William C. Cole.....	Rep.....	40,227
R. M. Duncan.....	Dem.....	31,108
4. Charles J. Bell.....	Dem.....	30,227
J. W. Mitchell.....	Rep.....	19,709
5. Roger C. Slaughter.....	Dem.....	27,243
R. B. Innis.....	Rep.....	26,163



## I. AMERICAN POLITICAL HISTORY

6.	P. A. Bennett.....	Rep.....	46,735
	S. M. Wear.....	Dem.....	38,946
	(Bennett died Dec. 7, 1942)		
7.	Dewey Short.....	Rep.....	49,595
	R. C. Max.....	Dem.....	28,542
8.	Wm. P. Elmer.....	Rep.....	39,422
	Clyde Williams.....	Dem.....	37,072
9.	Clarence Cannon.....	Dem.....	30,082
	C. E. Starkloff.....	Rep.....	24,912
10.	Orville Zimmerman.....	Dem.....	29,514
	Merrill Spitler.....	Rep.....	22,555
11.	Louis E. Miller.....	Rep.....	36,133
	J. B. Sullivan.....	Dem.....	35,510
12.	Walter C. Ploeser.....	Rep.....	68,329
	M. L. Neaf.....	Dem.....	51,649
13.	John J. Cochran.....	Dem.....	37,651
	J. E. Horn.....	Rep.....	23,770

### MONTANA

<i>U. S. Senator</i>			
	James E. Murray.....	Dem.....	83,673
	Wellington D. Rankin.....	Rep.....	82,461
	Charles R. Mitler.....	Prohib.....	2,711
	E. H. Halterbran.....	Soc.....	1,669
<i>Representatives in Congress</i>			
1.	Mike Mansfield.....	Dem.....	42,754
	Howard K. Hazelbaker.....	Rep.....	28,603
	Leverne Hamilton.....	Soc.....	1,058
2.	James F. O'Connor.....	Dem.....	50,489
	F. F. Haynes.....	Rep.....	45,051
	Earl McConnell.....	Soc.....	1,553

### NEBRASKA

<i>Governor</i>			
	Dwight Griswold.....	Rep.....	283,271
	Charles W. Bryan.....	Dem.....	95,231
<i>U. S. Senator</i>			
	Kenneth S. Wherry.....	Rep.....	186,207
	George W. Norris.....	(by petition).....	108,899
	Foster May.....	Dem.....	83,763
	Albert F. Ruthven.....	(by petition).....	1,348
<i>Representatives in Congress</i>			
1.	Carl T. Curtis.....	Rep.....	69,651
	Ralph G. Brooks.....	Dem.....	31,422
	Claude C. Earley.....	(by petition).....	3,534
2.	Howard Buffett.....	Rep.....	40,646
	Charles McLaughlin.....	Dem.....	35,743
3.	Karl Stefan.....	Rep.....	61,813
	George Hally.....	Dem.....	27,208
	Paul Burke.....	(by petition).....	3,732
4.	A. L. Miller.....	Rep.....	55,914
	Tom Lanigan.....	Dem.....	27,406

### NEVADA

<i>Governor</i>			
	E. P. Carville.....	Dem.....	24,505
	A. V. Tallman.....	Rep.....	16,164
<i>U. S. Senator</i>			
	J. G. Scrugham.....	Dem.....	23,805
	Cecil W. Creel.....	Rep.....	16,735
<i>Representative in Congress</i>			
	Maurice J. Sullivan.....	Dem.....	21,100
	Ernest Brooks.....	Rep.....	18,289

### NEW HAMPSHIRE

<i>Governor</i>			
	Robert O. Blood.....	Rep.....	83,766
	Wm. J. Neal.....	Dem.....	76,782

## ELECTIONS OF 1942

<i>U. S. Senator</i>		
Styles Bridges.....	Rep.	88,601
Francis P. Murphy.....	Dem.	73,656
<i>Representatives in Congress</i>		
1. Chester E. Merrow.....	Rep.	43,281
Thomas A. Murray.....	Dem.	39,743
2. Foster Stearns.....	Rep.	42,718
Henry J. Proulx.....	Dem.	30,473

### NEW JERSEY

<i>U. S. Senator</i>		
Albert W. Hawkes.....	Rep.	648,855
Wm. H. Smathers.....	Dem.	559,851
Wm. L. Becker.....	Soc.	6,775
Lorenzo Harris.....	Prog.	3,224
Elmo L. Bateman.....	Prohib.	1,438
John Butterworth.....	Soc.-Labor	1,310
George Breitman.....	Soc. Workers	679
<i>Representatives in Congress</i>		
1. Charles A. Wolverton.....	Rep.	74,867
Ralph W. Wescott.....	Dem.	46,445
2. Elmer H. Wene.....	Dem.	40,478
Benjamin D. Foullois.....	Rep.	35,930
3. James C. Auchincloss.....	Rep.	51,573
William H. Sutphin.....	Dem.	45,037
4. D. Lane Powers.....	Rep.	51,498
Wm. Homer Thompson, Jr.....	Dem.	29,088
5. Charles A. Eaton.....	Rep.	61,896
J. Ellis Kirkham.....	Dem.	32,999
6. Donald H. McLean.....	Rep.	52,211
George R. Walsh.....	Dem.	36,425
Margaret C. Lowe.....	Prohib.	1,627
7. J. Parnell Thomas.....	Rep.	55,424
Emil M. Wulster.....	Dem.	25,171
8. Gordon Canfield.....	Rep.	56,582
Irving Abramson.....	Dem.	28,060
9. Harry L. Lowe.....	Rep.	51,692
Frank H. Hennessy.....	Dem.	32,021
10. Fred A. Hartley, Jr.....	Rep.	37,189
Frederic Bigelow.....	Dem.	31,504
11. Frank L. Sundstrom.....	Rep.	36,500
Wm. Freiday.....	Dem.	23,630
12. Robert W. Kean.....	Rep.	43,942
Joseph Siegler.....	Dem.	26,188
Frieda Norman.....	Com.	1,634
13. Mary T. Norton.....	Dem.	73,766
Raymond J. Cuddy.....	Rep.	18,894
14. Edward J. Hart.....	Dem.	75,322
Otto Trankler.....	Rep.	20,161

### NEW MEXICO

<i>Governor</i>		
John J. Dempsey.....	Dem.	59,258
Joseph F. Tondre.....	Rep.	49,380
<i>U. S. Senator</i>		
Carl A. Hatch.....	Dem.	63,301
J. Benson Newell.....	Rep.	43,704
<i>Representatives in Congress (two elected at large)</i>		
Clinton P. Anderson.....	Dem.	62,320
Antonio M. Fernandez.....	Dem.	57,474
Wm. A. Sutherland.....	Rep.	43,627
Reese P. Fullerton.....	Rep.	43,071

### NEW YORK

<i>Governor</i>		
Thomas E. Dewey.....	Rep.	2,147,702
John J. Bennett.....	Dem.	1,500,074
Dean Alfange.....	Am. Lab.	403,552
Coleman B. Cheney.....	Soc.	21,812
Israel Amter.....	Com.	45,211
A. M. Orange.....	Indust. Gov.	3,497

# I. AMERICAN POLITICAL HISTORY

## Representatives in Congress

At large (two to elect)	
Winifred C. Stanley.....	Rep.....1,965,794
Matthew J. Merritt.....	Dem. and Am. Lab.....1,909,706
Charles Muzzicato.....	Rep.....1,887,688
Flora D. Johnson.....	Dem. and Am. Lab.....1,872,321
Benjamin J. Davis, Jr.....	Com.....52,002
Elizabeth G. Flynn.....	Com.....50,305
Layle Lane.....	Soc.....22,361
Amicus Most.....	Soc.....19,294
1. Leonard W. Hall.....	Rep.....197,473
Rene A. Carreau.....	Dem.....83,453
Sabino Dewey.....	Am. Lab.....9,214
2. Wm. B. Barry.....	Dem.....125,090
Wm. D. Rawlins.....	Rep.....95,240
3. Joseph L. Pfeifer.....	Dem.....18,700
Samuel Rosenthal.....	Rep.....8,979
Joseph A. Weil.....	Am. Lab.....3,693
4. Thomas H. Cullen.....	Dem.....21,455
Frederick H. Gutkes.....	Rep.....10,070
Matthew P. Coleman.....	Am. Lab.....2,370
5. James J. Heffernan.....	Dem. and Am. Lab.....35,105 and 9,417
Charles G. Jochum.....	Rep.....23,285
6. Andrew L. Somers.....	Dem. and Am. Lab.....61,972 and 35,018
Theodore R. Studwell.....	Rep.....37,427
7. John J. Delaney.....	Dem. and Am. Lab.....21,178 and 6,510
Harry Boyarsky.....	Rep.....10,353
8. Donald L. O'Toole.....	Dem. and Am. Lab.....101,747 and 56,938
George F. Picken.....	Rep.....59,408
9. Eugene J. Keogh.....	Dem.....44,064
Wm. J. Drake.....	Rep.....41,491
Albert Slade.....	Am. Lab.....10,957
10. Emanuel Celler.....	Dem. and Am. Lab.....21,399 and 10,627
Jerome Lewis.....	Rep.....14,693
11. James A. O'Leary.....	Dem. and Am. Lab.....27,585 and 4,138
Robert S. Woodward.....	Rep.....23,029
12. Samuel Dickstein.....	Dem. and Am. Lab.....9,415 and 4,169
Hymen Hecht.....	Rep.....2,031
13. Louis J. Capozzoli.....	Dem. and Am. Lab.....8,578 and 2,669
John Rosenberg.....	Rep.....3,947
14. Arthur J. Klein.....	Dem. and Am. Lab.....11,653 and 5,999
Stuart Schefftel.....	Rep.....10,037
15. Thomas F. Burchill.....	Dem.....14,746
Walter A. Lockwood.....	Rep.....7,566
John Rogan.....	Am. Lab.....2,798
16. James H. Fay.....	Dem. and Am. Lab.....14,401 and 4,309
Wm. T. Pfeiffer.....	Rep.....18,630
17. Joseph C. Baldwin.....	Rep. and Am. Lab.....30,473 and 7,606
Carl Sherman.....	Dem.....24,365
18. Martin J. Kennedy.....	Dem.....18,636
Garrow T. Geer, Jr.....	Rep. and Am. Lab.....12,960 and 3,705
19. Sol Bloom.....	Dem. and Am. Lab.....31,655 and 9,911
Clarence McMillan.....	Rep.....20,000
20. Vito Marcantonio.....	Rep., Dem., and Am. Lab., 7,890, 7,533, and 3,501
21. Joseph A. Gavagan.....	Dem. and Am. Lab.....46,934 and 13,654
Herbert Kalkin.....	Rep.....30,796
22. Walter A. Lynch.....	Dem. and Am. Lab.....21,665 and 4,268
Richard C. Galifano.....	Rep.....12,714
23. Charles A. Buckley.....	Dem. and Am. Lab.....90,108 and 52,287
Wm. J. Waterman.....	Rep.....50,063
24. James M. Fitzpatrick.....	Dem. and Am. Lab.....81,939 and 35,259
Ralph W. Gwinn.....	Rep.....86,506
25. Ralph A. Gamble.....	Rep.....85,024
James J. Butterfly.....	Dem.....33,040
Dinah Lewis.....	Am. Lab.....3,853
26. Hamilton Fish.....	Rep.....48,763
Ferdinand A. Hoyt.....	Dem. and Am. Lab.....41,452 and 3,299
27. Jay LeFevre.....	Rep.....22,097
Sharon J. Mauhs.....	Dem.....11,191
28. Wm. T. Byrne.....	Dem. and Am. Lab.....86,142 and 625
Ernest B. Morris.....	Rep.....51,190
29. Dean F. Taylor.....	Rep. and Am. Lab.....67,763 and 2,001
John T. Dagnan.....	Dem.....31,616
30. Bernard W. Kearney.....	Rep.....53,147
Burlin G. McKillip.....	Dem.....29,414

## ELECTIONS OF 1942

	Herbert M. Merrill.....	Am. Lab.....	2,342
31.	Clarence E. Kilburn.....	Rep.....	43,197
	Thomas Q. Ryan.....	Dem. and Am. Lab.....	18,311 and 1,137
32.	Francis D. Culkin.....	Rep.....	50,970
	V. F. Milligan.....	Dem.....	17,631
	R. K. Bull.....	Am. Lab.....	1,064
33.	Fred J. Douglas.....	Rep.....	53,030
	S. D. Butler.....	Dem. and Am. Lab.....	33,384 and 1,581
34.	Edwin Arthur Hall.....	Rep.....	53,762
	Arthur J. Huland.....	Dem.....	33,276
	C. F. Doherty.....	Am. Lab.....	1,444
35.	Clarence E. Hancock.....	Rep.....	8,446
	A. B. McQuire.....	Dem.....	2,691
	Fred Sander.....	Am. Lab.....	131
36.	John Taber.....	Rep.....	47,620
	Charles Osborne.....	Dem. and Am. Lab.....	26,813 and 1,689
37.	W. Sterling Cole.....	Rep.....	54,700
	Daniel Crowley.....	Dem. and Am. Lab.....	21,215 and 1,237
38.	Joseph J. O'Brien.....	Rep.....	77,970
	Walden Moore.....	Dem. and Am. Lab.....	50,151 and 3,718
39.	James W. Wadsworth.....	Rep. and Dem.....	61,189 and 22,006
40.	Walter G. Andrews.....	Rep.....	91,222
	Julian Park.....	Dem. and Am. Lab.....	38,971 and 2,488
41.	Joseph Mruk.....	Rep.....	49,239
	Alfred F. Beiter.....	Dem. and Am. Lab.....	34,456 and 2,133
42.	John C. Butler.....	Rep.....	39,650
	Frank J. Caffery.....	Dem. and Am. Lab.....	32,466 and 1,782
43.	Daniel Reed.....	Rep.....	43,730
	Clare Barnes.....	Dem.....	20,867
	Nelson M. Fuller.....	Am. Lab.....	3,466

## NORTH CAROLINA

<i>U. S. Senator</i>			
	Josiah W. Bailey.....	Dem.....	230,427
	Sam J. Morris.....	Rep.....	119,165
<i>Representatives in Congress</i>			
1.	Herbert C. Bonner.....	Dem.....	8,444
	J. C. Meekins, Jr.....	Rep.....	671
2.	John H. Kerr.....	Dem.....	7,124
	Graham A. Barden.....	Dem.....	9,596
4.	Harold D. Cooley.....	Dem.....	20,703
	Wiley L. Ward.....	Rep.....	11,064
5.	John Hamlin Folger.....	Dem.....	20,601
	S. Evan Hall.....	Rep.....	9,899
6.	Carl T. Durham.....	Dem.....	16,548
	Hobart M. Patterson.....	Rep.....	5,660
7.	J. Bayard Clark.....	Dem.....	12,112
8.	W. O. Burgin.....	Dem.....	27,146
	A. D. Barber.....	Rep.....	20,868
9.	Robert L. Doughton.....	Dem.....	29,213
10.	Cameron Morrison.....	Dem.....	26,785
	Chas. A. Jones.....	Rep.....	21,535
11.	A. L. Bulwinkle.....	Dem.....	20,270
12.	Zebulon Weaver.....	Dem.....	30,438
	Gola F. Ferguson.....	Rep.....	16,150

## NORTH DAKOTA

<i>Governor</i>			
	John Moses.....	Dem.....	101,390
	Oscar W. Hagen.....	Rep.....	74,577
<i>Representatives in Congress (two elected at large)</i>			
	Usher L. Burdick.....	Rep.....	85,936
	William Lemke.....	Rep.....	65,905
	H. L. Halverson.....	Dem.....	47,972
	E. A. Johanson.....	Dem.....	31,547
	Charles R. Robertson.....	Individual.....	48,472

## OHIO

<i>Governor</i>			
	John W. Bricker.....	Rep.....	1,086,937
	John McSweeney.....	Dem.....	709,599



# I. AMERICAN POLITICAL HISTORY

## Representatives in Congress

<i>At large</i>			
George H. Bender	Rep.		945,995
Stephen M. Young	Dem.		717,692
1. Charles H. Elston	Rep.		54,120
Wm. H. Hessler	Dem.		33,884
2. Wm. E. Hess	Rep.		53,083
Nicholas Bauer	Dem.		29,823
3. Harry P. Jeffrey	Rep.		51,477
Greg Holbrook	Dem.		48,338
4. Robert F. Jones	Rep.		39,275
Clarence C. Miller	Dem.		22,567
5. Cliff Clevenger	Rep.		30,667
Ferdinand E. Warren	Dem.		17,514
6. Edward O. McCowen	Rep.		33,171
Jacob E. Davis	Dem.		31,793
7. Clarence J. Brown	Rep.		52,270
George H. Smith	Dem.		23,384
8. Frederick C. Smith	Rep.		33,797
Brooks Fletcher	Dem.		22,753
9. Homer A. Ramey	Rep.		47,377
John F. Hunter	Dem.		44,027
10. Thomas A. Jenkins	Rep.		29,691
Oral Daugherty	Dem.		16,582
11. Walter E. Brehm	Rep.		31,385
Harold K. Claypool	Dem.		19,817
12. John M. Vargo	Rep.		56,558
A. P. Lamneck	Dem.		40,290
13. Alvin Weichel	Rep.		37,923
E. C. Alexander	Dem.		23,618
14. Ed Rowe	Rep.		60,868
Dow W. Harter	Dem.		57,759
15. P. W. Griffiths	Rep.		35,137
Charles W. Lynch	Dem.		23,213
16. Henderson H. Carson	Rep.		50,657
Wm. R. Thorn	Dem.		45,531
17. J. Harry McGregor	Rep.		47,565
Samuel A. Anderson	Dem.		28,235
18. Earl R. Lewis	Rep.		43,279
Lawrence E. Imhoff	Dem.		37,951
19. Michael J. Kirwam	Dem.		60,248
James T. Begg	Rep.		46,567
20. Michael A. Ferghan	Dem.		34,462
Harry T. Marshall	Rep.		14,001
Marie R. Sweeney	Ind.		7,289
21. Robert Crosser	Dem.		35,109
Wm. J. Rogers	Rep.		19,137
Arnold S. Johnson	Ind.		744
22. Frances P. Bolton	Rep.		92,644
James Metzenbaum	Dem.		69,601

## OKLAHOMA

### Governor

Robert S. Kerr	Dem.	196,565
Wm. J. Otjen	Rep.	180,454
E. W. Fickinger	Prohib.	1,762

### U. S. Senator

E. H. Moore	Rep.	204,163
Josh Lee	Dem.	166,653
Oliver W. Lawton	Prohib.	1,549

### Representatives in Congress

1. Wesley E. Disney	Dem.	42,907
W. R. Boyd	Rep.	35,174
2. Jack Nichols	Dem.	21,651
E. O. Clark	Rep.	21,266
3. Paul Stewart	Dem.	23,317
Frank D. McSherry	Rep.	6,346
4. Lyle H. Boren	Dem.	23,921
Charles E. Wells	Rep.	18,177
5. Mike Monroney	Dem.	36,736
George W. Colvert	Rep.	15,738
6. Jed Johnson	Dem.	19,945
J. L. Hart, Jr.	Rep.	14,532

## ELECTIONS OF 1942

7. Victor Wickersham.....	Dem.....	14,042
Roscoe C. Holt.....	Rep.....	6,009
8. Ross Rizley.....	Rep.....	30,522
Julius W. Cox.....	Dem.....	19,765

### OREGON

<i>Governor</i>		
Earl Snell.....	Rep.....	220,188
Lew Wallace.....	Dem.....	62,561
<i>U. S. Senator</i>		
Charles L. McNary.....	Rep.....	214,755
W. W. Whitbeck.....	Dem.....	63,946
<i>Representatives in Congress</i>		
1. James W. Mott.....	Rep.....	49,021
Earl A. Nott.....	Dem.....	27,208
2. Lowell Stockman.....	Rep.....	26,723
W. M. Pierce.....	Dem.....	16,809
3. Homer D. Angell.....	Rep.....	55,755
Thomas R. Mahoney.....	Dem.....	51,870
4. Harris Ellsworth.....	Rep.....	29,385
E. C. Kelly.....	Dem.....	19,632

### PENNSYLVANIA

<i>Governor</i>		
Edward Martin.....	Rep.....	1,367,531
F. Clair Ross.....	Dem.....	1,149,897
Dale H. Learn.....	Pro.....	17,385
John J. Haluska.....	U. Pen.....	7,911
Joseph Pirincin.....	Soc. Lab.....	5,310
<i>Representatives in Congress</i>		
<i>At large</i>		
William I. Troutman.....	Rep.....	1,360,664
Inez B. Peel.....	Dem.....	1,105,992
Robert G. Burnham.....	Pro.....	22,701
1. James Gallagher, Sr.....	Rep.....	44,519
Leon Sacks.....	Dem.....	38,768
2. James P. McGranery.....	Dem.....	36,258
Augustus T. Ashton.....	Rep.....	35,545
3. Michael J. Bradley.....	Dem.....	47,515
John R. K. Scott.....	Rep.....	45,014
4. John E. Sheridan.....	Dem.....	43,284
Howard T. Scott.....	Rep.....	36,689
Harry J. Greene.....	Pro.....	1,267
5. C. Frederick Pracht.....	Rep.....	48,781
Francis R. Smith.....	Dem.....	46,691
6. Francis J. Myers.....	Dem.....	53,284
William H. Sylk.....	Rep.....	42,995
7. Hugh D. Scott, Jr.....	Rep.....	60,836
Thomas Z. Minehart.....	Dem.....	48,373
8. James Wolfenden.....	Rep.....	48,210
Vernon O'Rourke.....	Dem.....	34,164
9. Charles L. Gerlach.....	Rep.....	41,282
Francis L. Collum.....	Dem.....	25,284
10. J. Roland Kinzer.....	Rep.....	52,380
Daniel J. C. O'Donnell.....	Dem.....	23,784
11. John W. Murphy.....	Dem.....	43,585
James K. Peck.....	Rep.....	34,527
12. Thomas Byron Miller.....	Rep.....	55,679
Daniel J. Flood.....	Dem.....	46,550
13. Ivor J. Fenton.....	Rep.....	50,721
J. Noble Hirsh.....	Dem.....	36,466
14. Daniel K. Hoch.....	Dem.....	23,247
John C. Griesemer.....	Rep.....	19,498
Raymond Hofses.....	Soc.....	2,783
15. Wilson D. Gillette.....	Rep.....	63,077
Michael E. Yurkovsky.....	Dem.....	32,953
16. Thomas E. Scanlon.....	Dem.....	47,920
Robert Van der Voort.....	Rep.....	45,472
17. J. William Ditter.....	Rep.....	52,661
Charles W. Moyer.....	Dem.....	23,492
18. Richard M. Simpson.....	Rep.....	33,147
John W. Mann.....	Dem.....	20,053

## I. AMERICAN POLITICAL HISTORY

19.	John C. Kunkel.....	Rep.	62,119
	A. S. Beshore.....	Dem.	31,969
20.	Leon H. Gavin.....	Rep.	37,738
	John C. Brecht.....	Dem.	20,171
21.	Francis E. Walter.....	Dem.	32,498
	Wm. R. Coyle.....	Rep.	28,272
22.	Chester H. Gross.....	Rep.	34,202
	Harry L. Haines.....	Dem.	34,131
23.	James Edward Van Zandt.....	Rep.	38,235
	Harry E. Diehl.....	Dem.	24,432
24.	J. Buell Snyder.....	Dem.	33,480
	Carl H. Hoffman.....	Rep.	32,014
25.	Grant Furlong.....	Dem.	38,316
	M. B. Armstrong.....	Rep.	37,903
26.	Louis E. Graham.....	Rep.	41,730
	Peter P. Reising.....	Dem.	29,652
27.	Harve Tibbott.....	Rep.	50,153
	Eddie McCloskey.....	Dem.	40,096
28.	Augustine B. Kelley.....	Dem.	32,886
	Edward R. Stirling.....	Rep.	28,543
29.	Robert L. Rodgers.....	Rep.	40,243
	James F. Lavery.....	Dem.	27,573
30.	Samuel A. Weiss.....	Dem.	43,482
	John McDowell.....	Rep.	33,568
31.	Herman P. Eberharter.....	Dem.	50,316
	Robert Garland.....	Rep.	36,239
32.	James A. Wright.....	Dem.	41,798
	James G. Fulton.....	Rep.	39,262

### RHODE ISLAND

<i>Governor</i>			
	J. Howard McGrath.....	Dem.	139,407
	James O. McManus.....	Rep.	98,841
<i>U. S. Senator</i>			
	Theodore F. Green.....	Dem.	138,247
	Ira L. Letts.....	Rep.	100,240
<i>Representatives in Congress</i>			
1.	Aime J. Forand.....	Dem.	68,242
	Charles H. Eden.....	Rep.	47,480
2.	John E. Fogarty.....	Dem.	69,411
	Harry Sandager.....	Rep.	51,471

### SOUTH CAROLINA

<i>Governor</i>			
	Olin D. Johnson.....	Dem.	23,859
<i>U. S. Senator</i>			
	Burnet R. Maybank.....	Dem.	22,556
<i>Representatives in Congress</i>			
1.	L. Mendel Rivers.....	Dem.	5,452
2.	H. P. Fulmer.....	Dem.	4,448
3.	Butler B. Hare.....	Dem.	3,201
4.	Jos. R. Bryson.....	Dem.	4,228
5.	J. P. Richards.....	Dem.	3,122
6.	John L. McMillan.....	Dem.	2,905

### SOUTH DAKOTA

<i>Governor</i>			
	Sharpe.....	Rep.	109,786
	Bicknell.....	Dem.	68,706
<i>U. S. Senator</i>			
	Buchfield.....	Rep.	106,704
	Berry.....	Dem.	74,945
<i>Representatives in Congress</i>			
1.	Mundt.....	Rep.	81,373
	Hildebrandt.....	Dem.	54,457
2.	Case.....	Rep.	30,389
	Bailey.....	Dem.	11,897

# ELECTIONS OF 1942

## TENNESSEE

<i>U. S. Senator</i>		
Tom Stewart.....	Dem.....	109,881
F. Todd Meacham.....	Rep.....	34,324
John R. Neal.....	Ind.....	15,317
<i>Representatives in Congress</i>		
1. B. Carroll Reece.....	Rep.....	19,778
H. T. Willis.....	Ind.....	799
2. John Jennings, Jr.....	Rep.....	18,613
John T. O'Connor.....	Dem.....	16,132
3. Estes Kefauver.....	Dem.....	14,704
Walter Higgins.....	Rep.....	3,831
Walter Harris.....	Ind.....	902
4. Albert Gore.....	Dem.....	7,667
H. E. McLean.....	Rep.....	3,463
5. J. N. McCord.....	Dem.....	9,841
6. J. Percy Priest.....	Dem.....	4,945
7. Wirt Courtney.....	Dem.....	8,689
8. Thomas J. Murray.....	Dem.....	9,151
P. W. Maddox.....	Rep.....	5,801
9. Jere Cooper.....	Dem.....	7,354
S. Homer Tatum.....	Rep.....	882
10. Clifford Davis.....	Dem.....	23,660

## TEXAS

<i>U. S. Senator</i>		
W. Lee O'Daniel.....	Dem.....	260,629
Dudley Lawson.....	Rep.....	12,064
Charles L. Somerville.....	People's U.....	1,934
<i>Representatives in Congress</i>		
1. Wright Patman.....	Dem.....	9,502
2. Martin Dies.....	Dem.....	10,128
3. Lindley Beckworth.....	Dem.....	10,929
4. Sam Rayburn.....	Dem.....	11,768
5. Hatton W. Sumners.....	Dem.....	10,568
6. Luther A. Johnson.....	Dem.....	10,726
7. Nat Patton.....	Dem.....	11,043
A. W. Orr.....	Rep.....	96
8. Albert Thomas.....	Dem.....	31,038
M. N. S. Kjørlaug.....	Rep.....	622
Vance Muse.....	Ind.....	369
9. J. J. Mansfield.....	Dem.....	13,852
10. Lyndon B. Johnson.....	Dem.....	12,799
11. W. R. Poage.....	Dem.....	7,554
12. Fritz G. Lanham.....	Dem.....	25,894
13. Ed Gossett.....	Dem.....	12,677
Louis H. Gould.....	Rep.....	251
14. Richard M. Kleberg.....	Dem.....	16,211
15. Milton H. West.....	Dem.....	12,169
16. R. E. Thomason.....	Dem.....	6,612
17. Sam M. Russell.....	Dem.....	13,261
18. Eugene Worley.....	Dem.....	10,739
19. George H. Mahon.....	Dem.....	12,216
20. Paul J. Kilday.....	Dem.....	8,860
William A. Turner.....	Rep.....	1,980
21. O. C. Fisher.....	Dem.....	16,554

## UTAH

<i>Representatives in Congress</i>		
1. Walter K. Granger.....	Dem.....	36,297
J. Bracken Lee.....	Rep.....	36,028
2. J. W. Robinson.....	Dem.....	43,582
Reed E. Vetterli.....	Rep.....	34,586

## VERMONT

<i>Governor</i>		
Wm. H. Willis.....	Rep.....	44,804
Park H. Pollard.....	Dem.....	12,708



## I. AMERICAN POLITICAL HISTORY

### *Representative in Congress*

Charles A. Plumley .....	Rep.....	40,751
John B. Candon .....	Dem.....	17,304

### VIRGINIA

#### *U. S. Senator*

Carter Glass .....	Dem.....	79,421
Lawrence S. Wilkes .....		5,690
Alice Burke .....		2,041

#### *Representatives in Congress*

1. S. Otis Bland .....		5,207
2. Winder R. Harris .....		5,369
3. David E. Satterfield, Jr. ....		5,822
4. P. H. Drewry .....		4,457
5. T. G. Burch .....		8,166
Howard H. Crawile .....		601
6. Clifton A. Woodrum .....		10,510
Stephen A. Moore .....		724
7. A. Willis Robertson .....		7,521
8. Howard W. Smith .....		13,380
Harrie Byrd Conlin .....		1,757
Clare T. Robb .....		311
9. John W. Flannagan, Jr. ....		16,655
Cary Ingram Crockett .....		9,534

### WASHINGTON

#### *Representatives in Congress*

1. Warren G. Magnuson .....	Dem.....	69,010
Harold H. Stewart .....	Rep.....	35,910
2. Henry M. Jackson .....	Dem.....	39,628
Payson Peterson .....	Rep.....	26,573
3. Fred Norman .....	Rep.....	34,462
Martin F. Smith .....	Dem.....	25,894
4. Hal Holmes .....	Rep.....	34,495
Knute Hill .....	Dem.....	19,751
5. Walt Horan .....	Rep.....	47,242
C. C. Dill .....	Dem.....	28,076
6. John M. Coffee .....	Dem.....	42,666
Ralph Woods .....	Rep.....	23,650

### WEST VIRGINIA

#### *U. S. Senator*

Chapman Revercomb .....	Rep.....	256,816
Matthew F. Neely .....	Dem.....	207,045

#### *Unexpired term*

Hugh Ike Shott, Sr. ....	Rep.....	227,469
Joseph Rosier .....	Dem.....	207,678

#### *Representatives in Congress*

1. A. C. Schiffler .....	Rep.....	42,787
Robert L. Ramsay .....	Dem.....	35,498
2. Jennings Randolph .....	Dem.....	32,935
Chas. G. Baker .....	Rep.....	32,676
3. Edward G. Rhorbough .....	Rep.....	37,135
Andrew Edmiston .....	Dem.....	32,682
4. Hubert S. Ellis .....	Rep.....	48,697
George W. Johnson .....	Dem.....	44,528
5. John Kee .....	Dem.....	36,625
B. F. Howard .....	Rep.....	27,400
6. Joe L. Smith .....	Dem.....	46,281
Houston G. Young .....	Rep.....	43,043

### WISCONSIN

#### *Governor*

Orland S. Loomis .....	Prog.....	397,664
Julius P. Heil .....	Rep.....	291,945
William C. Sullivan .....	Dem.....	98,153
Frank P. Zeidler .....	Soc.....	11,295
Fred Bassett Blair .....	Ind. Com.....	1,092
Georgia Cuzzini .....	Ind. Soc. Lab.....	490

## PERIODICAL PUBLICATIONS

### *Representatives in Congress*

1. Lawrence H. Smith	Rep.	46,453
Bernard F. Magruder	Dem.	16,848
Walter G. Benson	Soc.	1,275
2. Harry Sauthoff	Prog.	43,412
Charles Hawks, Jr.	Rep.	34,272
Thomas R. Brooks	Dem.	8,315
Fred A. Hale	Soc.	476
3. William H. Stevenson	Rep.	34,177
Gardner R. Withrow	Prog.	31,092
William D. Carroll	Dem.	7,385
Henry A. Ochsner	Soc.	258
4. Thaddeus F. Wasielewski	Dem.	46,819
John C. Schafer	Rep.	29,104
John C. Brophy	Prog.	17,468
Robert Buech	Soc.	2,535
5. Howard J. McMurray	Dem.	44,337
Lewis D. Thill	Rep.	38,345
Roy A. Roush	Prog.	16,409
Edwin W. Knappe	Soc.	3,553
6. Frank B. Keefe	Rep.	41,385
Eugene Schallern	Dem.	13,364
Adam F. Poltl	Prog.	10,645
John C. Boll	Soc.	1,157
7. Reid F. Murray	Rep.	40,520
John A. Kennedy	Dem.	15,821
8. La Vern R. Dilweg	Dem.	40,002
Joshua L. Johns	Rep.	33,441
9. Merlin Hull	Prog.	37,919
George H. Hipke	Rep.	19,972
Jack E. Joyce	Dem.	3,448
10. Alvin E. O'Konski	Rep.	33,143
Bernard J. Gehrmann	Prog.	28,169
John G. Green	Dem.	7,198

## WYOMING

<i>Governor</i>			
— Hunt	Dem.		39,599
— Smith	Rep.		37,568
<i>U. S. Senator</i>			
E. V. Robertson	Rep.		41,486
H. H. Schwartz	Dem.		34,503
<i>Representative in Congress</i>			
Frank A. Barrett	Rep.		37,963
John J. McIntyre	Dem.		36,892

## PERIODICAL PUBLICATIONS

*American Mercury*  
570 Lexington Ave., New York City.

*American Political Science Review*  
Menasha, Wis.

*American Spectator*  
683 Broadway, New York City.

*Commonweal, The*  
386 Fourth Ave., New York City.

*Congressional Digest*  
2131 LeRoy Place N.W., Washington, D. C.

*Current History*  
225 Varick Street, New York City.

*Journal of Political Economy*  
5750 Ellis Ave., Chicago.

*Nation, The*  
55 Fifth Ave., New York City.

*New Republic, The*  
40 East 49th Street, New York City.

*News-Week*  
152 West 42nd Street, New York City.

*Political Science Quarterly*  
Columbia University, New York City.

*Time Weekly Newsmagazine (The)*  
9 Rockefeller Plaza, New York City.

## I. AMERICAN POLITICAL HISTORY

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

#### GENERAL

AMERICAN ANTIQUARIAN SOCIETY, Salisbury and Park Ave., Worcester, Mass.  
AMERICAN BAPTIST HISTORICAL SOCIETY, Upland Avenue, Chester, Pa.  
AMERICAN CATHOLIC HISTORICAL ASSOCIATION, Catholic University, Brookland Station, Washington, D. C.  
AMERICAN HISTORICAL ASSN., Library of Congress Annex, Study Room 274, N.W., Washington, D. C.  
AMERICAN IRISH HISTORICAL SOCIETY, 991 Fifth Ave., New York City.  
AMERICAN JEWISH HISTORICAL SOCIETY, 3080 Broadway, New York City.  
AMERICAN NUMISMATIC SOCIETY, 156th Street at Broadway, New York City.  
AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY, 287 Convent Avenue, New York City.  
AMERICAN SOCIETY OF CHURCH HISTORY, 5757 University Ave., Chicago, Ill.  
CANADIAN HISTORICAL ASSN., Ottawa, Canada.  
FREETHINKERS OF AMERICA INC., 317 East 34th Street, New York City.  
HISPANIC SOCIETY OF AMERICA, Broadway between 155th and 156th St., New York City.  
HOLLAND SOCIETY OF NEW YORK, 90 West Street, New York City.  
HUGUENOT SOCIETY OF AMERICA, 122 East 58th Street, New York City.  
METHODIST HISTORICAL SOCIETY, 150 Fifth Ave., New York City.

MISSISSIPPI VALLEY HISTORICAL ASSN., Cedar Rapids, Iowa.  
NEW ENGLAND HISTORIC GENEALOGICAL SOCIETY, 9 Ashburton Place, Boston, Mass.  
PRESBYTERIAN HISTORICAL SOCIETY, 520 Witherspoon Building, Philadelphia, Pa.  
PROPORTIONAL REPRESENTATION LEAGUE, 309 East 34th Street, New York City.  
SOCIETY FOR THE PRESERVATION OF NEW ENGLAND ANTIQUITIES, 141 Cambridge St., Boston, Mass.  
STEBURN SOCIETY OF AMERICA, 369 Lexington Ave., New York City.  
THOMAS PAINE NATIONAL HISTORICAL ASSN., North Ave., New Rochelle, N. Y.  
UNITED STATES CATHOLIC HISTORICAL SOCIETY, 346 Convent Ave., New York City.  
WOODROW WILSON FOUNDATION, THE, 8 West 40th Street, New York City.

#### POLITICAL

ACADEMY OF POLITICAL SCIENCE, Morningside Hghts., New York City.  
AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.  
AMERICAN POLITICAL SCIENCE ASSN., 105 Harris Hall, Northwestern University, Evanston, Ill.  
LEAGUE FOR INDUSTRIAL DEMOCRACY, 112 E. 19th Street, New York City.  
WOMEN'S NATIONAL DEMOCRATIC CLUB INC., 50 West 45th St., New York City.  
WOMEN'S NATIONAL REPUBLICAN CLUB, 3 West 51st Street, New York City.

## DIVISION II

### INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

#### THE UNITED STATES IN WARTIME

BY WHEELER B. PRESTON  
AUTHOR AND PUBLICIST

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##### COMBINED CHIEFS OF STAFF

Following entry of the United States into the Second World War, Washington became the principal center for the war effort of the United Nations, and the President increasingly became recognized as spokesman for all engaged in defeating the Axis aggressors. In February, 1942, a Combined Chiefs of Staff Group was created by the United States and Great Britain to ensure complete coordination of effort, four ranking officers representing each country in constant conferences in Washington. Representatives of the other United Nations, such as China, The Netherlands, Australia, and the Soviet Union also consulted regularly with the Combined Chiefs of Staff in the consideration of matters concerning their national interests. The Munitions Assignments Board, set up on Jan. 26, 1942, with branches in both Washington and London, also served under the Combined Chiefs of Staff, and under the latter body were, in addition, Joint Strategic and Joint Intelligence committees.

##### PACIFIC WAR COUNCIL

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In March a Pacific War Council was created in Washington for consideration of general political problems in that sphere, this body taking precedence over an earlier one set up in London. The nations represented on the new Council comprised the United States, Australia, New Zealand, China, The Netherlands, Cana-

da and Great Britain. Notably, the Soviet Union did not have a seat, for Russia and Japan were not at war.

##### NEW ANGLO-AMERICAN BOARDS

Three further Anglo-American bodies were created in January: the Combined Raw Materials Board, to allocate strategic raw materials and to secure the maximum development and utilization of raw material resources; the Combined Shipping Adjustment Board, to control the movement of shipping and direct the charter operation of ships; and the Munitions Assignments Board, with like appropriate functions. Two more Anglo-American bodies were set up in June: the Combined Production and Resources Board, to resolve the problem of dividing labor between the British and American industrial machines so as to reduce demands on shipping space; and the Combined Food Board, to consider common problems concerning the supply, production, transportation, disposal, allocation or disposition of food and food-producing equipment throughout the world. All these boards were in constant touch with various branches of the American Government, and through parallel boards in London they were linked with corresponding British governmental agencies.

##### SUPPLY AND PURCHASE FACILITIES

In Washington there was also a British Council of Supply in North



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

America, which supplanted various special delegations and commissions; The Netherlands had a special purchasing commission and a naval commission; the U.S.S.R. had the Soviet Government Purchasing Commission; and Chinese interests were safeguarded by a corporation called China Defense Supplies, Inc. Master lend-lease agreements were negotiated with Britain in February, and with China and Russia in June, postponing final determination of the lend-lease account with these countries until the extent of the defense aid was known and until the progress of events made clearer the final terms and conditions and benefits which would be in the mutual interests of the signatory nations.

### VISITS OF FOREIGN LEADERS

After visiting London, on May 30 Vyacheslaff Molotoff, Foreign Commissar of the Soviet Union, visited Washington for talks with the President, the question of a second military front in western Europe being in the forefront of their discussions. The following month Prime Minister Churchill paid his second visit to Washington since the United States entered the war. The official communique on a week-long series of conferences, in some of which Maxim Litvinoff, the Soviet ambassador, took part, necessarily was not explicit, though it was stated that the offensive strategy to be adopted was the major topic of the talks.

Three exiled sovereigns of Europe also visited Washington during the summer, less for official conferences than as harbingers of good will. King Alexander of Yugoslavia, Queen Wilhelmina of The Netherlands, and King George of Greece were in turn the guests of the President, and each had the opportunity to address joint sessions of Congress. (See "Visiting Sovereigns in America," pp. 93-96).

### DISPOSITION OF ALIENS

At the time of Pearl Harbor there were 934,100 Axis aliens living in the United States. Of these, 12,071 were arrested during the first year of

America's participation in the war, and 3,567 were released by government attorneys. Of the 7,627 whose cases were handled by hearing boards, 3,646 were interned for the duration of hostilities, 2,993 paroled, and 1,048 released. Those interned comprised 1,974 Japanese, 1,448 Germans, 210 Italians, and 14 others. Organized sedition was virtually ended during the year through the efforts of the Department of Justice. In February all nationals of Axis countries resident anywhere in the United States, who were 14 years old or more, were required to secure certificates of identification, and restrictions were placed on their freedom to travel and on other of their liberties. On Oct. 12, 1942, Attorney General Francis Biddle announced that it was the intention of the Government to free the 600,000 unnaturalized Italians living in the United States from the stigma of being alien enemies. This exoneration was well deserved, for it had been necessary to intern fewer than one-twentieth of one per cent of Italians for acts inimical to the country.

### THE GERMAN SABOTEURS

Many, both aliens and native-born Americans, were imprisoned for hostile actions. As early as June, 1941, Frederick Joubert Duquesne and 32 co-agents of Germany were arrested, and in January, 1942, they were sent to prison. Kurt Ludwig and eight confederates shared a like fate the following March. Early in June eight men were landed in the United States from two submarines, one near Amagansett, Long Island, and the other near Jacksonville, Florida. Subsequently they confessed to have come with the intention of committing sabotage and six were consequently put to death, one was sentenced to life imprisonment, and the last to 40 years. A total of 530 years imprisonment was also meted out to 49 other persons convicted of espionage. Four of those found guilty of treason were sentenced to death; one for aiding the escape of a Nazi prisoner of war, and three as accom-

## THE UNITED STATES IN WARTIME

plices of the executed Nazi agents. Three other confederates were sentenced to 25 years in prison, and as the year closed another was awaiting his fate.

### PATENT SEIZURES

By executive order of the President, on April 21 it was announced that the Alien Property Custodian was empowered to seize all patents in the United States controlled by enemy nationals, even if they were ostensibly owned by citizens of allied or neutral nations or United States citizens. Not only were the patents to be taken if helpful toward winning the war, but they were also to be retained after conclusion of hostilities; patents that had been seized in 1917 had been returned after the First World War and eventually they got back into enemy hands. Through the destruction of international cartels and patent pools held to be illegal, a great number of trade secrets and technical processes (many known to our enemies but not to American industrialists) were thrown open to arsenals and manufacturers in the United States.

### CONFERENCES IN GREAT BRITAIN

It became necessary early in 1942 to send many individuals or groups to foreign countries, either for purposes of consultation or as permanent missions. In April Gen. George C. Marshall, Chief of Staff of the U. S. Army, and Harry L. Hopkins, close aide of the President, went to London to discuss the problems of integrating British and American manpower and war production for action in Europe, and the following month the chiefs of the U. S. Army Air Force, Navy Bureau of Aeronautics, and Army's Service of Supply visited Britain for like purposes. W. Averill Harriman was sent to London as lend-lease expeditor in June, and in July many prominent civil and military heads made the journey. Among them was William Phillips, ambassador to Rome at the time Italy declared war on the United States, who became chief of the Lon-

don branch of the U. S. Office of Strategic Services.

### MISSIONS ABROAD

As early as November, 1941, Major General Russell L. Maxwell arrived in Cairo, Egypt, with both lend-lease and military functions, and in the next spring William Stix Wasserman went to Australia as lend-lease representative. Louis Johnson was despatched to India in March as personal representative of the President, and it was announced that a supply mission was to be set up in that country to help in defense and to assist in the distribution of war materials from India to the Chinese and to the forces of the United Nations in Middle Eastern theatres of the war. Another mission had charge of improving the railroad systems in Iraq and Iran, and of speeding up the delivery of material over those strategic routes linking the United States and Great Britain with the U.S.S.R., and yet another went to China to help equip and train an army for mechanized warfare once transport facilities became available. Major Follett Bradley was sent to Russia in August on a special lend-lease mission, and another group went to that country to give instruction in the characteristics of American-made weapons and to decide by observation on the spot what further type of aid might most usefully be supplied.

### WILLKIE AS SPECIAL ENVOY

In September Wendell Willkie, the Republican leader, went abroad as a special envoy of the President. From Egypt he went on to Turkey, and thence by way of Iran to Russia. After a conference with Stalin in Moscow he proceeded to Chungking, and from China he flew back directly to the United States by way of Siberia and Alaska. In subsequent addresses he was highly critical of the extent of aid given to Russia and China to date, and expressed his views as to the form post-war reconstruction of the world should take.

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### POLICIES RESPECTING FRANCE

The maintenance of American diplomatic relations with Vichy France proved of considerable service. Admiral William D. Leahy, U. S. Ambassador, exerted great influence in restraining the trend toward more complete collaboration with Germany, but with the return to power of Pierre Laval, the most ardent of Nazi supporters, in April, Leahy's position became increasingly difficult. The ambassador was recalled to Washington at that time "for consultation," and was not subsequently returned to his post, three months later being appointed chief of staff to the President as Commander in Chief. Leahy had been instrumental in the dispatch of several shiploads of foodstuffs to French North Africa, and of Red Cross supplies to Vichy, France, but tension between the countries grew to such a degree that the practice had to be discontinued. Relations between Vichy and Washington were broken finally after the landing of American troops in North Africa in November, 1942, Marshal Pétain denouncing the action of the United States in the strongest possible terms.

### SPANISH RELATIONS

President Roosevelt made every effort to preserve amicable relations with Spain, despite the attitude of Gen. Francisco Franco, who recognized his indebtedness to Germany and Italy for aid in the Civil War, and of Ramon Serrano Suñer, his Foreign Minister (and brother-in-law), who offered Spanish volunteers to fight against the Soviet Union and criticized those Latin American republics supporting the United Nations. As a gesture of friendliness, on Aug. 28 President Roosevelt declared that he favored a plan for rehabilitating after the war the art treasures, the old manuscripts, literature, and famous buildings of Spain. The motive for the announcement at that particular juncture became clearer not long after. At the time American troops were disembarking at French North African ports, less

than three months later, the President sent a message to Franco (and a like one to the President of Portugal) giving assurances that the military measures then under way were in no shape, manner, or form directed against "the government or people of Spain or Spanish territory, metropolitan or overseas." A polite response was received, nevertheless, numbers of American troops were retained on the borders of Spanish Morocco just in case Hitler might force Franco's hand.

### FINLAND

There was general regret that the course of events forced a wide breach between the United States and Finland, for the manner in which Finland had managed her internal affairs and paid instalments on her debt to this country excited considerable admiration. On July 17, 1941, the Finnish Government announced that "in view of wartime conditions," American consular matters must henceforth be handled entirely through its foreign ministry rather than directly with local authorities, the effect being that American consular officers in Finland were denied the rights specified in the treaty of Feb. 13, 1934. Another difficulty arose in 1942 when, on July 9, Finland declined to afford even provisional recognition to a vice-consul newly appointed to Helsinki (the only American consular office in the country), and likewise in violation of treaty provisions. Under these circumstances, on July 15, 1942, the United States closed its own consular office in Finland and requested the Finnish Government to close all its consular offices in United States territory (numbering 15) not later than the end of the month.

Yet another cause of ill feeling arose. The Office of War Information broadcast to Finland in the Finnish language an account of a Japanese reception given in Helsinki on the anniversary of the attack on Pearl Harbor at which films of the attack were shown, the guests included J. W. Rangell, the Prime Minister, and other officials of the Finnish Gov-



## THE UNITED STATES IN WARTIME

ernment. Thereupon Finland placed restrictions upon the distribution in Helsinki of American news releases, motion pictures, and other materials, and the United States promptly took exception, pointing out that the two countries were not at war. These difficulties could not be composed, and the State Department ordered the Finnish Information Center in New York to cease issuing news releases and pamphlets, and at the same time (Dec. 29, 1942) instructed the American Legation in Helsinki to send out no more bulletins and other material prepared by the Office of War Information.

### **POLICIES RESPECTING LATIN AMERICA**

(See "The United States and Latin America, pp. 121)

### **DIPLOMATIC BACKGROUND OF THE WAR**

On Jan. 2, 1943 the United States Government issued a White Paper bearing the title "Peace and War: United States Foreign Policy, 1931-1941." This pamphlet of 144 pages reviews the developments in the global diplomacy of this country during the decade which "began and ended with acts of violence by Japan," the invasion of Manchuria and the attack on Pearl Harbor. This was a period which, as the White Paper points out, was marked "by the ruthless development of a determined policy of world domination" by Japan, Germany, and Italy. The factors relating to Axis aggression, the dangers caused by those factors, and the action taken by the United States as a result are summarized. The pamphlet is a preliminary digest designed to introduce a collection of diplomatic documents covering the 1931-41 period which are to be published from time to time in separate volumes.

In connection with the issuance of this pamphlet, the following is the text of the statement issued at the same time by Cordell Hull, Secretary of State:

"We are issuing today a publication entitled 'Peace and War,' prepared in

the Department of State. It is an introduction to a collection of documents concerning the foreign relations of the United States during the fateful decade 1931-1941.

"This book and the collection of documents which is in the process of publication present a record of policies and acts by which the United States sought to promote conditions of peace and world order to meet the world-wide danger resulting from Japanese, German and Italian aggression as those dangers arose.

"That record shows, I think, that throughout this period our government consistently advocated, practiced and urged upon other countries principles of international conduct on the basis of which the nations of the world could attain security, confidence and progress. Much was accomplished in the face of immense difficulties.

"It is for the establishment of those principles that we and our associates are fighting today.

"I am convinced that, had those principles been adopted and applied by the nations of the world, all legitimate grievances and controversies between nations could have been satisfactorily adjusted by peaceful processes and without resort to force. We and all mankind would have been spared the horrors of this world-enveloping war thrust upon us by the criminal ambitions of the leaders of Japan, Germany and Italy, who—intent upon conquest—rejected all principles of law, justice, fair dealing and peaceful negotiation and resorted to the sword.

"In making this information more fully available to the people of the United States we earnestly hope that a study of it will help our citizens to a clearer understanding of the problems and tasks which have confronted us, of those which confront us now and of those which will confront us in the crucial days ahead.

"There will be confident hope for the future provided our people and other peoples hold fast to the eternal principles of law, justice, fair dealing and morality which we have con-



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stantly proclaimed and sought to apply and which must underlie any practicable program of peaceful international collaboration for the good of all.

"Our people and the peoples of the United Nations will need to have in the future, as they have today, a unity of purpose and a willingness to make appropriate and indispensable contributions toward the achievement of military victory and toward the establishment and maintenance of a peace that will endure.

"With unity of purpose and common effort there can be achieved a peace that will open to all mankind greater opportunity than has ever before existed for welfare and progress in every avenue of human endeavor."

### EXTRATERRITORIAL RIGHTS IN CHINA

In recognition of China's long and heroic resistance to Japanese aggression and also in recognition of her contribution to the war against the Axis as one of the United Nations, this country and Great Britain offered to negotiate with China for the relinquishment of extraterritorial and related rights and privileges in that country. The offer was made on Oct. 9 on the eve of the thirty-first anniversary of the establishment of the Chinese Republic. It was a timely gesture and one which aroused a high degree of gratification in China. The rights referred to had been held by the United States, Great Britain, and France for close upon 100 years. Their relinquishment will not only prove a moral tonic to the Chinese but will do much to intensify the dissatisfaction of Japan's Chinese satellites concerning the announcement of the establishment of a New East Asiatic Affairs Ministry in Tokyo which in effect reduces China to a colonial status.

The statement of Secretary of State Cordell Hull follows:

"The President of the United States in the year 1934, and the Department of State on various occasions since, as announced on July 19, 1940 and on May 31, 1941, expressed the willingness of this government, when

conditions should be favorable therefor, to negotiate with the Chinese Government for the relinquishment of the extraterritorial and related rights and privileges hitherto possessed by the United States in China.

"On Oct. 9, 1942, the Acting Secretary of State informed the Chinese Ambassador in Washington that the Government of the United States is prepared promptly to negotiate with the Chinese Government a treaty providing for the immediate relinquishment of this country's extraterritorial rights in China and for the settlement of related questions, and that the Government of the United States expects in the near future to present to the Chinese Government for its consideration a draft treaty which would accomplish the purpose mentioned.

"The Government of the United States has during the past several weeks exchanged views with the British Government in regard to this general question, and the Government of the United States is gratified to know that the British Government shares this government's views and is taking similar action."

In pursuance of the purpose thus stated by Secretary Hull, the governments of the United States and Great Britain, on Jan. 11, 1943, signed with China treaties abolishing extraterritorial rights and other special privileges held by them for nearly a century, thus restoring to China full sovereignty over her own soil. The Sino-American treaty was signed at the State Department in Washington by Secretary Hull and Dr. Wei Tao-ming, the Chinese ambassador. The Sino-British treaty was signed in Chungking, the war capital of the Chinese Republic, by Sir Horace Seymour, British ambassador to China, and Dr. T. V. Soong, Chinese Foreign Minister. Specifically the American treaty surrenders all special rights enjoyed by this country in the Treaty Ports, in the diplomatic quarter in Peiping, and in international settlements in Shanghai and Amoy (including courts at Shanghai for the trial of Americans); also this country gives up its rights under the Boxer Protocol of

## VISITING SOVEREIGNS IN AMERICA

1931 for the stationing of troops in China and special privileges for American naval vessels in Chinese waters. Coastal ports normally open to American shipping are to remain open. The treaty just signed also provides for negotiation of "a compre-

hensive modern treaty of friendship, commerce, navigation and consular rights," and meanwhile American rights in China not covered by treaty shall be subject to "the generally accepted principles of international law."

## VISITING SOVEREIGNS IN AMERICA

By WILLIAM M. SCHUYLER

EDITOR, *The American Year Book*

### THE QUEEN OF THE NETHERLANDS

An interesting feature in the sphere of international affairs in the year 1942 was the visit to the United States and Canada of Queen Wilhelmina of The Netherlands, of King George II of Greece, and of King Peter II of Yugoslavia. Though living in exile in England, these rulers, like King Haakon VII of Norway, continue actively to lead their respective countries in co-operation with the other United Nations in the prosecution of the war. As sovereigns *de facto* as well as *de jure*, their visits were primarily official; as distinguished personages visiting this side of the Atlantic for the first time, their visits afforded an opportunity for some private relaxation and observation.

A happy preliminary to the arrival of Queen Wilhelmina was the announcement from Washington on May 7 of the elevation of the Dutch legation to the status of an embassy and the promotion of the Minister, Dr. Alexander Loudon, to the rank of Ambassador. This action was taken at the instance of President Roosevelt as a tribute to the Dutch people on the second anniversary of the German invasion of their country. On the following day, Anthony J. Drexel Biddle, Jr., the American Minister to The Netherlands and to the other exiled governments in Great Britain, presented his credentials to the Queen in London as Ambassador to The Netherlands.

Queen Wilhelmina, traveling by plane from England, arrived on June

18 at Ottawa where her daughter, the Crown Princess Juliana and her two children, had been living for two years. During the few days she was in the Dominion capital, the Queen was the guest at Government House of the Governor General, the Earl of Athlone, and of Princess Alice, Lord Athlone's wife, who is the Queen's cousin-german. The Princess Juliana had already leased for the summer the country estate of Mrs. John B. Lloyd at Lee, Mass. The royal party reached Stockbridge, Mass. by train from Ottawa on June 24 and motored from there to Lee. Traveling with the party was Hugh S. Cumming, Jr. of the U.S. State Department's European Affairs Division, who represented Secretary Cordell Hull. The Queen's secretariat was installed in a hotel at Stockbridge. On June 29 the President paid her a private call, motoring from Hyde Park. The Lee community gave the Queen a quiet official welcome the same week.

Queen Wilhelmina was the guest of the President at Hyde Park for the week-end of July 13, and on Monday, the 15th, she went to New York by automobile and was officially greeted at City Hall by Mayor La Guardia who later entertained her at luncheon at the Gracie Mansion, the official home of the Mayor. That evening she attended a huge reception at the Hotel Astor. In her reply to the address of the president of The Netherlands Club the Queen said that she had "crossed the ocean to tell all whom I meet on this continent of the greatness of our nation amidst its

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vicissitudes." The next day she returned to Lee after visiting the Dutch Seamen's Home in the Seamen's Church Institute in South Street. On July 20 she went to Boston for a visit of two days, being entertained at a formal dinner by the Governor of Massachusetts, reviewing troops at Fort Devens, and inspecting the Charlestown Navy Yard. On July 22 Prince Bernhard, the Crown Princess' husband, arrived from England to join the family at Lee. On Aug. 2, the Queen drove to Albany, being met at the state line by Governor Lehman and at the city line by Mayor Corning. She visited the historic First Dutch Reformed Church, the City Hall, and had luncheon at the Executive Mansion.

The culminating event of Queen Wilhelmina's sojourn in this country was her state visit to Washington where she was welcomed on Aug. 5 by the President and Mrs. Roosevelt and government officials and entertained in the evening at a state dinner at the White House. On Aug. 6 the Queen addressed a joint session of Congress, declaring that "no surrender" is the motto of her government-in-exile and of the Dutch people. "Inside occupied territory and outside, the fight goes on," she said. "We use our resources to the best of our abilities. In the Indies, where our forces won fresh laurels together with yours, stubborn resistance continues locally. Surinam helps the United States with its bauxite, Curaçao with its oil products; our soldiers, sailors, and airmen are on duty in both these territories, and they guard them in alert and cordial cooperation with your own forces stationed there when the war in the Far East prevented us from sending reinforcements to the Caribbean area. Our Navy is on duty every day. Our mercantile marine, still one of the largest, has been completely integrated in the navigational effort of the United Nations, fighting off Axis submarines and raiders in close companionship with your own brave seafaring men. . . . When speaking of war and peace aims, I do not forget, were it only for one brief moment,

that first of all there is a war to be won. In that war we are with you and the other United Nations to the last."

The Queen left Washington on Aug. 7 after a round of last-minute activities including the bestowal at The Netherlands Embassy of decorations on Admiral Thomas C. Hart, Rear Admiral William A. Glassford, Commander T. H. Binford, Commander H. E. Eccles, and Lieutenant Commander H. P. Smith for their participation with Dutch forces in the battles of the Java Sea. The two admirals received the Grand Cross of the Order of Orange-Nassau. The Queen returned to England by air on Aug. 26.

### THE KING OF GREECE

The journey of King George II, which finally brought him to Washington on June 10, began at Cairo, Egypt, where he had been living in exile since the German conquest of Greece and Crete. The King was received with full military honors at the White House and greeted by the President and Mrs. Roosevelt, the Secretary of State, Cordell Hull, and other government officials. The Greek ruler was accompanied by his Prime Minister, Emanuel Tsouderos, and by the Greek Minister (later Ambassador) at Washington, Cimon P. Diamantopoulos. In a previous talk with newspapermen, King George said that his mission to this country was for the purpose of arranging for direct shipment of lend-lease supplies to the Greek forces, declaring that his countrymen "are in the fight to stay" and that "the Greek army, its air corps and more than half of its original navy are fighting today in many theaters of the war."

On June 11 the King laid a wreath on the tomb of the Unknown Soldier at Arlington National Cemetery and then went on to visit Mount Vernon where he spoke over short-wave radio in Greek to the people in his homeland and to Greeks in all parts of the world. Later, at a gathering in the Red Cross garden in Washington, the King spoke of the sufferings his



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people had endured and were enduring and of the relief measures that he hoped could be taken through the medium of the Red Cross organization. On June 14 King George flew to New York to witness the great New York at War parade, returning to Washington the same day.

Dressed in the uniform of a Field Marshal of the Greek Army, the King addressed a joint session of the Senate and House of Representatives on June 15 and he expressed the hope that the sufferings of the war would result in a new and more equal order in which all nations would participate in the task of maintaining peace. "Greece proved by its stand," he said, "that no price is too high to pay for human freedom and international decency. Today, when more than ever victory is clearly discernible on the flaming horizon, she is determined to contribute whatever she can toward that victory. Knowing the boundless resources which the American people are placing in motion for the common effort, I feel duty bound to speak with great modesty of my country's contribution to the same cause. However small that contribution may appear in contrast with what you are doing, it is everything we have."

The King and his party passed the two days of June 16-17 in New York City where they were the guests at a dinner of 200 covers given by Harold S. Vanderbilt, honorary chairman of the Greek War Relief Association. The next day, after being officially welcomed at the City Hall by Mayor LaGuardia and lunching with the Mayor at the Gracie Mansion, the King visited Columbia University and received the honorary degree of Doctor of Laws. That evening he dined with the University's president, Dr. Nicholas Murray Butler, at Dr. Butler's home in Morningside Drive. Accepting the degree from Columbia, King George declared that the Greek nation "and its fighting forces who are in action in the Middle East, will never lay down their arms until victory is won and education is free in a free world."

The King prolonged his stay in this

country for the purpose of visiting various industrial centers and for some sight-seeing. On June 28 he arrived in Montreal and after a few days in that city went to Ottawa where he was the guest of Lord Athlone and the Princess Alice at Government House. Following a brief return visit to the United States, in the course of which he conferred the Cross of Military Valor, Greece's highest military honor, on General Douglas MacArthur, King George and Prime Minister Tsouderos departed by plane and arrived in London on July 19.

### THE KING OF YUGOSLAVIA

As befitted his youth, the 19-year-old Peter II of Yugoslavia contrived to mingle a good measure of recreation with the official duties entailed in his six weeks' sojourn in the United States. He arrived in Washington by plane on June 21, accompanied by M. Nincitch, the Yugoslav Foreign Minister. He was officially welcomed by President Roosevelt on June 24 and was tendered a state dinner at the White House that evening. The next day the King addressed Congress in joint session. "Hundreds of thousands of our men have fallen in battle or been massacred in cold blood," he said. "The sacrifices of these men will inspire and guide me in my reign. I shall, with God's help, devote all my efforts to assuring those for whom they died a life worthy of this great sacrifice. The four freedoms which your great President pledged to his own people will be the aim for which we will strive. . . . This war is indivisible, and there can be no freedom anywhere if even the smallest country in any part of the world is enslaved."

Before leaving Washington for Detroit to inspect the Ford and other industrial plants in that city and vicinity, King Peter went to the Arlington National Cemetery where he laid a wreath on the tomb of the Unknown Soldier. At Detroit the King made a tour of the armament factories and talked with Edsel Ford and other industrialists. He arrived in New York in time for the observance



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of the Fourth of July. He walked about the streets incognito, rode in the subway, visited the Empire State Building, and was the host at luncheon to Governor Lehman and Mayor La Guardia. He went to West Point on July 6 and the next day to Princeton where he lunched with President Dodds of Princeton University. Back in New York on July 9, the King was officially received by the Mayor at City Hall and lunched at Gracie Mansion, after which he visited the

Pupin Physics Laboratory at Columbia University. He attended a ball game at the Yankee Stadium on July 10 and then left for Canada, making brief stays at Ottawa and Montreal. Returning across the border, King Peter stopped at Lake Placid for some boating. In New York again he paid a call at Police Headquarters and listened to the line-up questioning.

The King returned to London on July 31.

## THE WAR IN EUROPE AND AFRICA

BY WHEELER B. PRESTON  
AUTHOR AND PUBLICIST

### GENERAL

After more than two years of conflict in Europe and the Near East, the war had attained global dimensions as 1942 dawned. The failure of France, Great Britain, and the United States to stand together after the First World War, their attempts to placate aggressors and their culpable military unpreparedness had brought complete disaster to the first, near collapse to the second, and the prospect for the third of a war without precedent in duration and cost in lives and treasure. The magnitude of the task that lay ahead became ever more evident as 1942 progressed. Both in Europe and Africa, the United Nations met with defeat after defeat for months on end, and this review shows that in the war with Japan the enemy achieved successes which in 1941 would have been deemed utterly impossible. Easy going assurance that the war would be short gave way gradually to realization that the blood, toil, tears, and sweat which Winston Churchill had foreseen for his own country was evidently to be the lot, too, for Britain's allies as well before final victory could be attained.

### VICHY FRANCE

Marshal Pétain's government steadily grew more ineffectual. In February, after nearly a year and a half of

delay, former leaders of the French Republic were brought to trial at Riom, charged with responsibility for French defeat in 1940. Gen. Maurice Gustave Gamelin refused to defend himself, Blum questioned the constitutionality of the Pétain regime, and the others—Daladier, la Chambre and Jacomet—took little part in the proceedings. The futile procedure was soon abruptly halted on the orders of Hitler, who declared that the obvious aim of the prosecution was not to prove French war guilt but merely to show that France was ill prepared for combat.

Under Nazi pressure Pétain reinstated Pierre Laval in the Vichy Cabinet on April 14, and within four days invested him with the title of Chief of Government, supplanting Admiral Darlan. The latter continued, however, as titular successor to the aged Marshal, and was made supreme commander of all the land, air, and sea forces of Vichy, France. On April 25 it was learned that Gen. Henri Honoré Giraud, a front-rank French military leader, had escaped from captivity in Germany, as he had done, also, in the First World War. From Switzerland he made his way to Vichy, but he refused to share in the administration and shortly went into retirement.

On Aug. 11 Laval announced that

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he could secure release of 50,000 of the 1,200,000 Frenchmen still prisoners of war in Germany if he could recruit 150,000 skilled factory workers for service in the Reich, and as further evidence of his collaboration with the Nazis, later in the month Laval agreed to provide 10,000 Jews from unoccupied France for deportation to eastern territories. However, the most drastic decree issued by Vichy since close collaboration began came on Sept. 14 when compulsory labor was introduced for men between 18 and 65 and for unmarried women between 20 and 35; it was the culmination of many moves to get forced labor for Hitler.

### IN THE FRENCH CARIBBEAN

The United States Government negotiated directly with Admiral Georges Robert, Vichy's high commissioner of the French Caribbean possessions, in May, with a view to the immobilization of warships then anchored at Martinique, Guadeloupe, and French Guiana. The United States Ambassador to Vichy, Admiral William D. Leahy, had been recalled to Washington after Laval became Chief of State, and these discussions with Robert without reference to Vichy marked the official American view of the current situation in France. Despite Laval's protest at the "interference" of the United States in French internal affairs, Admiral Robert gave the required assurances that the vessels should be placed out of commission.

### OCCUPATION OF FREE FRANCE

Following the landing of American troops in North Africa, on Nov. 11, 1942, anniversary of the end of the First World War, German troops occupied the whole of Vichy France with the exception of a 30-mile zone around the great naval base of Toulon. This small area, too, was shortly taken over, when naval officers and men, acting on the instructions of Darlan, then in North Africa, destroyed almost the entire French fleet rather than allow it to fall into Nazi hands.

From this time diplomatic relations were broken off between Washington and Vichy, and for all immediate purposes the whole of France was regarded as territory in enemy occupation. Pétain continued to hold a nominal position, and Laval was nominally his spokesman, but in practice all semblance of independence was lost—Vichy France had virtually ceased to exist.

### THE FIGHTING FRENCH

On Bastille Day, July 14, 1942, De Gaulle's Free French administration, located in London, assumed the more vigorous title of The Fighting French. De Gaulle had secured recognition from Britain and the governments-in-exile of countries overrun by the Nazis, but the United States had not followed suit. Nevertheless, the State Department dealt with De Gaulle in April in negotiating establishment of a consulate-general in Brazzaville, French Equatorial Africa, and later that month the War Department announced that American troops had arrived in New Caledonia, on the sea route to Australia, with consent of De Gaulle, to whom it acknowledged allegiance. In May Great Britain completed the conquest of Madagascar, which had adhered to Vichy, and immediately announced that administration of the island was to be handed over to De Gaulle. Just before the year closed, too, Fighting French and British representatives reached an understanding for the surrender of French Somaliland, and that territory, also, was left in the hands of the latter. The Fighting French protested bitterly when the United States Government gave recognition to Admiral Darlan as political head in North Africa, but they were disposed to soften their attitude when Darlan was succeeded by Gen. Giraud.

### THE BALKANS

Although in enemy occupation, Yugoslavia continued throughout the year its struggle for independence. Guerrilla fighting was waged against the Italian occupying troops by the

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followers of Gen. Draja Mikhailovitch, and also by a rival body, though rumors reached the world outside that they were also engaged in fighting each other. On Jan. 15, 1942, the governments-in-exile of Yugoslavia and Greece signed an agreement establishing a post-war fundamental principle of "The Balkans for the Balkan peoples," and when King Peter of Yugoslavia visited Washington in the following June he was cordially received when addressing a joint session of Congress. (See "Visiting Sovereigns in America," pp. 93-96).

### NORWAY

German attempts to Nazify the Norwegians culminated in an order in March, 1942 that all children above ten years of age must be enrolled in the Quisling youth movement. Church leaders protested in vain, with the result that Presiding Bishop Eivand Berggrav and five other bishops resigned their offices, and on April 5, during Easter services, some 1,100 clergymen announced their resignations as state officials subject to the Church Ministry. With continued unrest scores of young Norwegians were shot by the Germans or the Quisling administration, but it was clear that the temper of the people had been tried too far, and the drastic orders regarding the indoctrination of children was modified.

### THE NETHERLANDS

From time to time throughout the year news reached London of the shooting of Netherlands for aiding the secret service of the United Nations and for being in possession of arms and explosives. On June 6 all shipping under The Netherlands flag was requisitioned for the British and American governments, being placed under the British Ministry of War Transport until six months after conclusion of hostilities. Queen Wilhelmina made her first airplane trip in a flight that month to Canada to visit Crown Princess Juliana, and in August she visited Washington, there making a moving address to a joint session

of Congress. (See "Visiting Sovereigns in America," pp. 93-96.)

### ITALY

Long before the year 1942 closed Fascism was in eclipse. After two years of fruitless warfare the people were embittered and disillusioned, the Fascists no longer ruled with popular consent, and only the presence of German forces in the country kept Italy in the war at all. The once popular Mussolini was disdained and laughed at, for he had guessed wrong when he entered the conflict, and none was impressed at the widely heralded conferences between Hitler and Count Ciano, Italian Foreign Minister. In the fighting in Libya, Italian troops were frequently abandoned to their fate by their German allies, and in Russia they surrendered in many thousands to the Russians before Stalingrad.

### GERMANY

As in earlier years of the war, in 1942 Hitler made brave speeches proclaiming his confidence in ultimate victory, but by now he was no longer forecasting when that would come. No longer could he minimize the difficulties of the task ahead, and increasingly it became difficult for him to screen his failures from the German people. In retrospect, and with knowledge of facts divulged in 1942, it became clear that Hitler had made five major mistakes, errors which had rendered his ultimate success out of the question:

1. He should have invaded Britain immediately after France fell, for in England there was less than one division of fully-equipped troops.
2. He should have sent in his fighter planes in the Battle of Britain, rather than the bombers, for in this arm he outnumbered the British five to one and could have attained clear air supremacy for the bombers later to destroy the cities.
3. He should not have entrusted the Italians with the attack on Egypt late in 1940, for Germans would readily have overrun the very few



British troops then there, and could have ravaged all the Near East.

4. He threw away all hope of victory by wantonly attacking Russia whose strength he failed to appreciate beforehand.
5. He was outwitted diplomatically by the Japanese, to whom he pledged intervention against the United States without a corresponding undertaking that Japan should attack Russia.

Coupled with these military and diplomatic errors was Hitler's blunder, probably no less fatal to his future, in ruling Europe with a brutality that has no parallel in history. Civilians of both sexes and of all ages were ruthlessly dragged from their homes in one country after another to be put to work for the Nazis. Hitler had loudly announced the advent of a New Order in Europe, one in which the German master race was to be dominant, but so crudely did he reveal what this portended for all other peoples that it became clear that it would never be accepted.

The greatest of his horrors were reserved for the Jews. Eleven nations, including the United States, issued on Dec. 17, 1942 a Declaration condemning Germany's "bestial policy of cold-blooded extermination" of Jews. The Declaration revealed that "in Poland, which has been made the principal Nazi slaughterhouse, the ghettos established by the Nazi invader are being systematically emptied of all Jews except a few highly-skilled workers required for war industries. None of those taken away is ever heard of again. The able-bodied are slowly worked to death in labor camps. The infirm are left to die of exposure and starvation, or are deliberately massacred in mass evacuations. The number of victims of these bloody cruelties is reckoned in many hundreds of thousands of entirely innocent men, women, and children."

Not only the Jews suffered, however. On May 27, 1942, Reinhard Heydrich, who had deservedly earned the sobriquet "The Hangman," was mortally wounded in Prague. After

his death on June 4 hundred were put to death for alleged complicity in the attack on him, and was climaxed by an unexampled crime. On the pretext that shelter and assistance had been given to the slayers of Heydrich, all the men in the little Czechoslovak town of Lidice were shot, the women sent to concentration camps, the children placed in "educational institutions" and the town itself levelled to the ground. In the words of an official statement, "the name of the community was extinguished," but the memory of such a barbaric act could never be effaced from the minds of men.

### THE RUSSIAN CAMPAIGN

The first blow of the summer campaign of 1942 was not struck by the Germans until May 11, when they attacked both in the Donetz basin and in the Kerch Peninsula of the Crimea. A simultaneous Russian advance north of Leningrad soon slowed down, and by May 24 the Communists were driven from Kerch, opening the way for a Nazi advance toward Stalingrad and the Caucasian oil fields. Soviet troops were compelled to yield ground around Karkov in the middle of June, and on July 2 Sevastopol, the great seaport of the Crimea, fell to the Germans after a siege which had lasted for 245 days. The vital rail center of Voronezh was captured by the Nazis on July 7, and they went on to take Voroshilovgrad, on the lower Don, on July 19, and Rostov and Novocherkassk on July 27.

Despite enormous losses in ground and in men and materiel, the Russian armies remained intact, fighting hard to defend the western Caucasus as well as the Kletskeya region, west of Stalingrad. At the beginning of August there were two distinct campaigns in progress, the one directed toward the capture of Stalingrad and the other aiming at the occupation of all the Caucasus as far as the Caspian Sea. Maikop, in the centre of rich oil-producing lands, and also Krasnodar were lost by mid-August, but Russian resistance stiffened when



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the struggle for Stalingrad began on Aug. 24. The Nazis entered the outskirts of Stalingrad on Sept. 17, but the Russians continued to resist as doggedly as ever. Despite enormous losses on both sides the battle for the city went on week after week, while the cold winds and early snow of another winter began to envelop the combatants.

Hitler had failed to pass the winter in 1941 in either Leningrad or Moscow. A year later both cities were still holding out against him, and now Stalingrad, too, eluded him. On Nov. 19, with sub-zero weather along almost all the front, the Russians opened their winter offensive. Attacks developed around Rzhev, in the north, and Stalingrad, in the south, the first an intense drive to reach the important Leningrad-Warsaw railroad. The Germans were driven miles to the westward of Moscow, Soviet forces reaching the cities of Vyazma, Bryansk and Orel and, on December 16, launching another major offensive in the Don region. As 1942 closed the Russians claimed to have killed or captured 312,650 Germans or their allies (Rumanians and Italians) within six weeks in three great drives around Stalingrad. After cutting the Stalingrad-Rostov railroad, the Soviet troops launched an attack on the middle Don which swept southwestward and southward from the area of Novaya Kalitva and Monastirshchina to forge an outer ring around the enemy. The Germans massed shock troops around Kotelnikov to relieve these encircled forces, and promptly the Russians struck at this army, driving the Nazis to the southward. On Sept. 30, just three months before these great Russian achievements, Hitler had boasted that Stalingrad was a city "which we shall take, you may depend on it," and went on to say that "the capture of Stalingrad will be concluded." On Jan. 1, 1943, this appeared to have been one more of his miscalculations.

### OPERATIONS AT SEA

The most vital task of the United Nations upon the Seven Seas (and of

their enemies, too, in the Mediterranean and Pacific waters) was the safe conveying of merchant ships and transports. Long-range German planes based on continental Europe flew far over the Atlantic to locate shipping as prey for the U-boats, but improved methods of detection and defense made the task of the submarines increasingly more hazardous. No figures on the number of submarines destroyed were published, but out of thousands of ships convoyed by the British Navy less than one in 200 was lost by enemy action. On the other side of the ledger, Allied submarines sank, or probably sank, in all parts of the world 106 supply ships and 15 warships, and damaged 39 supply ships and nine warships; of these, 35 were sunk, or probably sunk, and 20 damaged, in the Mediterranean during the last three months of the year. Among new defense devices developed in 1941-42 were corvettes, small, speedy vessels with deadly armament able to perform many of the duties of destroyers.

British naval prestige was dimmed when the two great Nazi battleships *Scharnhorst* and *Gneisenau* and the cruiser *Prinz Eugen* were able to escape on Feb. 12 from the French port of Brest, sweep up the English Channel, steam through the Strait of Dover and reach Baltic harbors despite all efforts to sink them. Superior forces prevented them from further activity during the year, and the same was true of the *Tirpitz*, sister ship of the ill-fated *Bismarck* and Germany's mightiest battleship, which remained in Norwegian waters from January to December; on March 9 the latter endeavored to make its way northward from Trondheim, presumably to attack convoys en route to Russia, but was so damaged by British naval torpedo planes that she was forced again to seek refuge.

The bitterest convoy fighting occurred on the routes to North Russia and to Malta. Despite all German efforts those in the Arctic Sea were able to run on what was virtually a regular timetable, and convoys went repeatedly through the Mediterranean

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to beleaguered Malta. In an engagement on March 22-23 Italian naval and air forces were repelled by escorting British naval vessels which torpedoed a battleship amidships and damaged two cruisers; although the British suffered damage to one cruiser and three destroyers, all the convoy except one ship reached Malta in safety. Later in the year fighter aircraft were delivered to Malta by the United States aircraft carrier *Wasp*, subsequently lost in Asiatic waters.

In June it was announced that a strong United States Navy task force had joined the British Home Fleet, its commander, Rear Admiral Robert C. Giffen, being under the orders of Admiral Harold R. Stark, commander of all United States naval forces in European waters. One of the greatest naval operations of the whole war was the transport to North Africa early in November of the immense force, principally American, commanded by Lieut. Gen. Dwight D. Eisenhower. None of the great assemblage of ships was sunk at sea, and the losses during simultaneous landings at several ports was remarkably small.

### AIR OPERATIONS IN THE WEST

Nothing achieved by Nazi aerial attacks upon Britain in the fall of 1940, and later, approached the results of the continual raids of the Royal Air Force upon German cities in 1942. Lübeck, the Baltic port and submarine centre, was the first to feel the impact, half of the main inner town being destroyed in March. An even greater area of the city of Rostock was next destroyed, and in a great raid over Cologne on May 30-31, 1,043 bombers dropped over 3,000 tons of explosives and incendiaries within 90 minutes, as contrasted with the 400 tons which the Germans had been able to deliver over Britain in its largest raid in the fall of 1940. Bremen and Essen each received some 3,000 tons of bombs on subsequent nights, and many other cities were devastated to a degree far greater than was Coventry. In so-called "Baedeker" raids (named for

the well known guide books to places of interest), the Luftwaffe retaliated in 1942 by bombing such historic, non-military objectives as the cathedrals at Canterbury and Norwich.

The U. S. Army Eighth Air Force, stationed in Britain, dropped no bombs on Germany in 1942, but from July 4 onward attacked many targets in other parts of Nazi-occupied western Europe. U. S. Flying Fortress pilots took their machines over enemy areas for the first time on Aug. 18, bombing the railroad yards at Rouen, France, and before the end of the year conducted 25 operations, concentrating their attacks on such important objectives as U-boat bases, other port facilities, and vital manufacturing and railroad centres. United States fighter pilots made something like 1,350 offensive patrols over occupied territory and conducted nearly 900 defensive operations.

### THE MALTA BOMBINGS

The most bombed spot anywhere in the world was Malta, the strategic British island, no larger than Martha's Vineyard, only 58 miles distant from Italian soil and 1,000 miles away from the nearest British base. From the summer of 1940, when Italy entered the war, until the end of 1942 Malta had had over 3,000 air raid alerts, and in repelling enemy attacks the R.A.F. pilots stationed there destroyed upwards of 1,000 Nazi and Fascist aircraft. Offensively, Malta was of major importance, for it lay directly across the route which Axis shipping had to take in order to maintain supplies to Rommel in North Africa. In recognition of the heroism and devotion to duty of Malta's garrison and civilians, on April 16 King George VI conferred upon the island fortress the George Cross, this being the first time in history a medal had been conferred upon any part of the British Commonwealth.

### AIR RAIDS ON ITALY

In October began a series of devastating raids upon cities of northern Italy by R.A.F. planes flying across

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Europe from Britain. Genoa, Milan, Turin, and other places of strategic importance were attacked time after time, creating great damage and so alarming the populace that an elaborate system of mass evacuations had to be put into force. From Egypt, too, bombers of the U. S. Army air forces flew several times to southern Italy, dropping bombs upon Naples and other ports whence sailed supplies and reinforcements for the campaign in North Africa.

### BRITAIN'S WAR EFFORT

Although the danger of a Nazi invasion had faded, Great Britain, after three years of war, was feeling the burden increasingly in 1942. Until American production got into full stride she was the most productive Arsenal of Democracy, and in order to help pay for goods from the United States she sold most of her investments there. At the same time she had lost the great majority of her profitable holdings in the Far East, while some 60 per cent of the national income was being spent on the war. Income tax was at the rate of 50 per cent (commencing on incomes of \$440 a year), and with supertax it amounted to 97½ per cent on incomes over \$80,000; an excess profits tax of 100 per cent prevented any profit being made from the manufacture of armaments.

Men were conscripted for the army up to the age of 51, and those not in the regular forces were compelled (up to 65) to serve part time in the Home Guard; unmarried women up to 30 were conscripted for the auxiliary forces; and men and women of all ages were compulsorily enrolled in civilian defense and fire guard organizations. Drastic rationing of food and clothing was necessary in order to conserve shipping for bringing in men and supplies. After Pearl Harbor the British rushed anti-aircraft guns to Panama to help defend the Canal, and barrage balloons for the defense of San Francisco; sent ships and men to help against German submarines on the Atlantic seaboard, and fighter aircraft and pilots to operate

from Cuba; and supplied Rolls-Royce airplane engines to the U. S. air forces.

Prime Minister Winston Churchill visited Washington in June to plan for "the earliest maximum concentration of Allied war power upon the enemy," and two months later he went to Moscow by way of Egypt for discussions of a like nature. It was announced on Aug. 5 that the British Government had reached an agreement with the Czechoslovak Government-in-exile repudiating the Munich Pact which in 1938 had ceded the Sudetenland to Germany as the price of "peace in our time," and denying the validity of the separation of Slovakia from Moravia and Bohemia. On Aug. 25 the Duke of Kent, youngest brother of King George VI, was killed in a plane crash in Scotland. An air commodore on the staff of the R.A.F., he was en route to Iceland at the time of his death.

### THE FIGHT FOR EGYPT

The campaign in Libya, which had swayed back and forth with varying fortunes since late in 1940, took a new and startling turn early in 1942. Field Marshal Erwin Rommel's German and Italian force had lost Benghazi (for the second time) as 1941 closed, it was soon able to regain the offensive. A drive launched at El Aghela, on the border of Tripolitania, on Jan. 21, drove the British back into Cyrenaica. Benghazi returned into German hands on Jan. 29, and Rommel, following up his advantage, re-entered Derna on Feb. 3. There, 55 miles from the port of Tobruk, the German Afrika Korps was brought to a standstill, and it was not until May 27 that it could strike again. On that day armored forces swept eastward from the vicinity of Mekili to assault the troops of the Fighting French holding the southern flank of the British line, at Bir Hacheim. After 16 days the exhausted French garrison was driven from its positions, and Rommel, aiming first at Acroma, sought to isolate the British forces from their base in Egypt. Hurriedly the latter evacuated El Gazala, and El Adem and Rezegh, strong points



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in the perimeter defenses of Tobruk, and on June 21 the victorious Axis soldiers swept into Tobruk, capturing 25,000 of their enemy and vast stores of materiel.

In some degree the disaster had been due to lack of air strength, for in early May many aircraft scheduled to reinforce the British had been diverted to India and the Far East, and it was not until June 19 that United States planes arrived and began to operate in support of the Empire forces. After Tobruk fell the main British army was withdrawn across the Egyptian frontier, the small Libyan port of Bardia fell into Nazi hands, and frontier positions at Solum and Sidi Omar were abandoned. Rommel swept into Egypt on June 24 and within a short time captured Sidi Barrani, 60 miles distant, which had been the easternmost point reached by the Italians at the close of 1940. Matruh was lost by the British on June 29, and El Daba soon after, and a new defensive position was at length established at El Alamein, only 70 miles west of the great and vital port of Alexandria.

During the lull that ensued United States aircraft played a prominent part, and many American tank crews gained experience alongside their British allies. At this period U. S. Army forces in the Middle East were commanded by Major General Russell L. Maxwell, serving under Gen. Sir Claude J. E. Auchinleck. The latter was succeeded in August by Gen. Sir Harold R. L. G. Alexander, last man to leave the beaches at Dunkerque and commander in Burma during the last phase of the fight against the Japanese.

The first sign that the Axis flood might be turning to ebb came on Aug. 31 when Rommel tried an unsuccessful attack on El Alamein. Within a week the British were able to announce that Rommel's attempted break-through to the Nile Delta had definitely failed, and under Gen. Sir Bernard L. Montgomery, who had succeeded Alexander, the Allies worked feverishly to strike back. A great battle opened on the night of

Oct. 23, and from this time the initiative passed definitely to the United Nations. United States B-25's cooperated with the R.A.F. in laying down a bombardment barrage at El Alamein which, with the artillery of the British Eighth Army, broke the Axis steel, flesh, and spirit. American heavy bombers stopped Axis shipping headed for Tobruk, and as the advance got under way rendered Bengazi useless and blasted Tripoli. At the height of the battle Allied air forces conducted no fewer than 30,000 operational sorties, putting out of action at least 5,000 enemy transport vehicles and more than 100 enemy tanks and armored cars.

Once the Germans broke and fled they never again halted. Tobruk was once more captured by the British on Nov. 13, and the pursuit continued as rapidly as it was possible to establish ever-lengthening lines of communication. Montgomery's forces bypassed Bengazi, which fell (for the third time) on Nov. 20, and pressed on after the steadily retreating Germans, who were expected to make a stand at El Agheila, where they had halted the British almost a year earlier. Only a light rearguard force was left here by Rommel, however, and he was relentlessly followed by the British, whose greatest difficulty lay in removing the great quantities of mines and booby traps laid along the coastal highway. As the year closed the British were less than 200 miles from Tripoli, supplied in large measure by American transport planes, flown by both the R.A.F. and the U. S. Army Air Forces. A superabundance of equipment had been the secret of German successes in the past, in Africa and elsewhere, and demonstrably, when the Nazis could be met on equal terms in this respect, they were no longer the invincible and irresistible terror they had been supposed to be.

### THE UNITED STATES IN EUROPE

The first contingent of American troops to be sent into the European war zone landed in Northern Ireland on Jan. 26, 1942. Their numbers



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were augmented steadily for many months, additional forces being quartered in many parts of England and Scotland, all American ground troops being under the command of Major General (later Lieutenant General) Mark W. Clark. The latter served under the orders of Major General Dwight D. Eisenhower, who was named on June 25 head of all military and air forces in the European theater of operations, with headquarters in London.

At the request of the United States Government, Parliament passed a bill on Aug. 4 transferring criminal jurisdiction over members of the American armed forces from the British courts to American military tribunals. In the First World War and the early period of the current conflict the British Army in France had received the same right to judge its troops, but Parliament conceded a like privilege only with reluctance; it felt that the situation was not quite analogous, for in the case in France the territory involved was already a theatre of military operations and, in British view, their own soil was not. However, the system worked in Britain without friction.

As noted above, American air squadrons commenced to take their part in aerial operations over western Europe in July. The training of ground troops was also closely integrated with that of the British, the U. S. Ranger battalions, in particular, serving alongside the British Commandos, of which they were the counterpart. American naval forces, too, as already described, were operating in European waters as part of the British Home Fleet. Besides these American armed forces in Great Britain, and those in the Middle East, others were landed at British West African ports in July, and soldiers from the United States also were sent to Liberia, Negro republic on the west coast of Africa, and, in September, to the Belgian Congo. In Africa, too, the United States Government built up during 1941-42 a vast network of air transport lines which not only supplied local theatres of war but also

linked American productive activity at home with military activities in India and farther east. It had taken many months of exacting detail work to lay this groundwork for offensive operations, but it was to bear fruit before the year closed.

### INVASION OF FRENCH NORTH AFRICA

Two seasons of campaigning against Russia had brought only frustration to Hitler, and by October of 1942 he realized that it had become impossible to reach the rich Nile Valley and all that lay beyond by way of Libya. His successes had been spectacular against opponents unready or unwilling to fight, but now, with the might of Britain, Russia, and the United States arrayed against him, he was discovering that all his conquests in Europe were likely to slip from his grasp. His enemies were as resolute as he, and by now they were as well prepared.

A new blow befell him on Nov. 7, 1942. On the evening of that day powerful American forces, supported by British naval and air units, landed simultaneously at numerous points on the Atlantic and Mediterranean coasts of French North Africa. In the words of the President, the action was taken "in order to forestall an invasion of Africa by Germany and Italy which, if successful, would constitute a direct threat to America across the comparatively narrow sea from western Africa." The main landings were made at Agadir, Mogador, Casablanca, Port Lyautey, and Mehdia, Moroccan ports on the Atlantic Ocean, and at Oran, Algiers, Philippeville, and Bone on the Mediterranean seaboard of Algeria. All operations were under the supreme command of Major General Dwight D. Eisenhower.

The surprise landing had the prompt endorsement of Gen. Henri Honoré Giraud, French hero of two wars against the Germans, who made his escape from France aboard a British submarine and on arrival in Algeria appealed to all French forces in North Africa to rally around him

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in support of "this unexpected opportunity." Marshal Pétain, however, was bitter. He accused President Roosevelt of invoking "pretexts which nothing can justify," and forthwith severed diplomatic relations with the United States. The reaction of Hitler was to take over all of unoccupied (Vichy) France (except for a zone around Toulon) and also the Mediterranean island of Corsica in order "as far as possible, in collaboration with the French Army, to protect the African possessions of European powers."

### COOPERATION OF ADMIRAL DARLAN

Admiral François Darlan, at the time of the landing chief of Vichy's armed forces, was in Algiers, and there he was shortly "being entertained by one of our American generals with the respect and dignity due an officer of his rank." The outcome was that on Nov. 13 Darlan announced that he had assumed full responsibility for French interests in North Africa "with the approval of the American authorities." In pre-war political life he had been looked upon as a "French Huey Long," and his enemies were as numerous as his friends, but nevertheless, in deserting Vichy for the cause of the United Nations he won considerable regard for double-crossing Hitler, master of the double-cross. The President announced that he accepted General Eisenhower's "political arrangements" with Darlan and other former elements of the Vichy administration as a temporary military expedient which implied that no permanent arrangement would be made. However, in many quarters the recognition of Darlan was most unpopular. It was resented by the Russians and the British Government denied any part in it, while the Fighting French refused to collaborate in any manner. There were, too, bitter enemies of Darlan in North Africa itself.

On Dec. 1 Darlan assumed the status of French Chief of State in North Africa, and on Dec. 7 it was officially announced at Allied head-

quarters in Algiers that Darlan had reached an agreement on Nov. 23 with Pierre Boisson, Governor General at Dakar, for the adherence of all of French West Africa to his pro-United Nations regime.

### DESTRUCTION OF FRENCH FLEET AT TOULON

Undeniably, Darlan's influence was of the greatest assistance to the Allied cause. The admiral broadcast a "request" that the naval commanders at Toulon bring their ships to North Africa, but this action was forestalled by Hitler whose troops marched into Toulon on the morning of Nov. 27. As the forces neared the naval base the crews destroyed most of the vessels to balk the German attempt to seize them, though three submarines were able to reach North Africa and a fourth escaped into internment in Spain. While the ships would have been a valuable adjunct to Allied naval strength, it was scarcely less important that their use had been denied to the Nazis.

### OPERATIONS IN NORTH AFRICA

These initial great successes in North and West Africa had been achieved at a relatively small cost in human life. American casualties totaled 1,910 men, comprising 360 killed in the occupation of Casablanca, Oran, and Algiers, 1,050 wounded and 500 missing; it was considered probable that most of those reported missing were drowned. During that fighting against Americans through Nov. 8-10 casualties among the French forces numbered 1,459, of whom 490 were killed and 969 wounded. However, a great deal still remained to be accomplished before the Axis powers were to be wholly expelled from North Africa, with the prospect that ensuing operations were going to be much more costly.

In addition to Americans, British troops had also landed in North Africa to serve under General Eisenhower's command, and these bore the brunt of the fighting in the early stages after completion of the occupation. The British forces constituted

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the First Army, under the direction of Lieut. Gen. Kenneth A. N. Anderson. The Army, destined to fight in Tunisia, where historic conflicts had raged through many centuries, bore the mediaeval Crusaders' emblem, the cross and shield with the sword of St. George of England.

Pushing rapidly eastward from Algeria, Anderson's troops raced for Bizerte, the important naval port, and Tunis, capital of Tunisia. French forces which had adhered to Giraud accompanied the British, as well as a few American details, and at first it appeared probable that the two important Tunisian bases would soon be in Allied hands. The Axis had not been idle, however. Troops were rushed to the new theatre of operations by transport and by plane, and the Luftwaffe arrived in force to slow the British advance. Nevertheless, by the end of November the road and rail line linking Tunis and Bizerte was cut, but soon the Germans were in a position to launch strong counter-attacks and, on Dec. 4, drive Anderson's forces back. American tanks and guns were brought up to reinforce the hard-pressed British, as well as aircraft to cooperate with the R.A.F., and for the remainder of December the Allies were on the defensive within less than 100 miles of their objectives. Heavy rains and poor road communications were the major difficulties with which the Anglo-British troops had to contend, and operations were virtually halted until conditions improved and forces could be strengthened sufficiently to ensure a decisive result.

### THE POLITICAL CRISIS IN NORTH AFRICA

Meanwhile, however, the political situation in North Africa had reached a stage of crisis. While Admiral Darlan had been of pronounced assistance to the occupying forces he had

not succeeded in breaking down the opposition to his presence evinced by many Frenchmen. On Dec. 24, as he stepped into his offices in Algiers, he was shot and mortally wounded by a French youth, an act that was denounced by President Roosevelt as "murder in the first degree." The Imperial Council which had been set up by Darlan named Gen. Giraud as his successor on Dec. 26, and the latter accordingly handed over command of the French field army to Gen. Alphonse Juin, hitherto military aide to Gen. Charles Nogues, Governor General of Morocco. At no time in his career had Giraud been identified with political activities, and it appeared as if he would receive more general support than any other Frenchman available.

### THE OUTLOOK

At the conclusion of the first 12 months of American participation in the conflict, the relative positions of the antagonists had undergone a marked change. In Europe, Germany, sole effective Axis partner, had apparently passed from the offensive to the defensive. Weakened by the fruitless Russian campaigns, unable to hold his gains in Libya, Hitler was scarcely maintaining a toehold in Tunisia. The Japanese were by now on the defensive in Asia as well, seemingly in no position to strike again while harried in the Solomons and New Guinea. Nevertheless these enemies, still occupying vast stretches of territory, had enormous resources at their command, and in military strength and in spirit they continued to be most formidable opponents whose potentialities for evil could not be underestimated. While none could foresee what the future might hold in store, it seemed almost too good to be true that another year would see the victorious end of hostilities.

## THE WAR IN THE ORIENT AND OCEANIA

### THE WAR IN THE ORIENT AND OCEANIA

BY HERBERT H. GOWEN

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#### GENERAL

As the year 1941 closed the optimists were predicting the speedy avenging of Pearl Harbor and the crushing of the militarism with which Japan had rashly challenged the might of the United States. At the end of 1942 the picture, though not gloomy enough to encourage the pessimists, is not yet one to favor the opinion that complete victory is near.

At this time it is not possible to tell a complete story, nor to forecast what the immediate future has to disclose. Even the barest account of the happenings which are matters of record to date must be qualified by the knowledge that, for a full revelation of the truth, much time must still elapse. Exaggeration of successes and excusable concealment of losses (by no means all on one side) make the task of the cautious and conscientious narrator difficult and hazardous. The obvious course is to chronicle the more easily discoverable facts, together with such evaluation as seems currently reasonable.

The echoes of the Pearl Harbor attack had not died away, and men were still discussing the details of the attack and the extent of official responsibility, when news came of the war-flame bursting over other large areas of the Pacific. Instead of describing immediately the range of this conflagration it will be better, in the interest of clarity, to discuss each of the several fields of activity separately, using sufficient freedom in cross-reference to suggest the unity of the entire conflict.

#### CONQUEST OF THE PHILIPPINES

The invasion of the Philippines commenced even before the attack on Manila which had been declared an "open city" by General Douglas MacArthur as early as Dec. 26, 1941. Japanese officials, however, denied that

the city was undefended and insisted that the attack was only on military objectives. In Northern Luzon, the invaders had seized important beach-heads, and air-bases were soon thereafter established through the capture of such places as Baguio and Bontoc. The numerically inferior Filipino and American forces could only fight delaying actions, while the smallness of the American Navy (much weakened at Pearl Harbor) made the sending of reinforcements impossible.

Manila fell on Jan. 2, 1942, and its defenders withdrew to the Bataan peninsula. Here the first assault on Jan. 4 was repulsed, and next day a major air attack was made on the Japanese fleet in which Capt. Colin Kelly won a place in history by the sinking of the battleship *Haruna*. Presently, however, the Navy was obliged to abandon its Cavite base after destroying all supplies. Meanwhile the enemy had invaded and occupied, after stout resistance, the island of Mindanao.

On the Bataan peninsula six weeks of desperate fighting made veterans of the American troops who maintained their position in defiance of the swarms of dive-bombers which sought to break the defence. The Japanese General Homma's 14th. Army struggled with General MacArthur's men through the tangled undergrowths of Bataan, a treacherous swamp inhabited by deer, snakes, and wild pigs. The Japanese infantry had the assistance of their naval guns which gradually made dents in the American lines, while the constant arrival of reinforcements increased the pressure.

The departure of General MacArthur and President Quezon for Australia, together with the extension of the occupation of Mindanao 35 miles north of Davao, was generally regarded as ominously indicative of the



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approaching fate of the archipelago. Early in April, after "ninety-eight tortured days," Bataan surrendered, and the American forces, under General Wainwright, withdrew to the fortress of Corregidor. The last days of beleaguered Bataan saw all the animals eaten and the brave garrison reduced to the most desperate straits. Corregidor held out until May 6, after a defence of epic proportions. General Wainwright's capitulation ended all but sporadic resistance in the Philippines.

What has actually happened in the islands remains, after 12 months, an almost complete mystery, so completely has communication with the outside world ceased. Such reports as have emerged from time to time are almost completely concerned with Manila and its vicinity. Here, as far as is known, foreigners have been allowed to go more or less their own way, but some individuals or groups seem to have been confined to camps further north, in the neighborhood of Baguio. As to the condition of missionaries and others still farther north, as in the Mountain Province, nothing whatever has so far been allowed to leak out, and even the Red Cross is unable to throw any light on the situation. Moreover, quite recently, there has been reason to believe that the entire archipelago has by no means as yet been subjugated. Certain accounts seem to imply that resistance still continues both on the part of civilians who are opposing the army of occupation passively and on the part of guerrilla units in the outlying mountainous areas. One account asserts: "American-Filipino remnants are still holding out in the Visayan Islands" and "taking advantage of steep mountains and jungles" on Panay, Cebu, Leyte, and Negros.

### MALAYA

The Philippine campaign was barely under way when the Japanese began a full-scale assault on Malaya and the Dutch East Indies. The resistance against this attack was, of course, not under American direction, but the issues involved concerned United States

plans for Pacific defence to such an extent that our reference to the sequence of events in this area is certainly justified.

It had been assumed at the outset that any attack on Singapore would be made from the sea, but when, instead of this, it was revealed that the enemy was busily engaged in penetrating the northern jungles and, with the assistance of the Indo-Chinese, was making considerable progress, uneasiness for the first time overtook those who were responsible for the defence of the great oriental fortress. This uneasiness was reflected in the supersession of Sir Robert Brooke Popham by Sir Henry Pownall and the assignment of General Hutton to the defence of Burma, under the supreme authority of General Wavell.

Both Australia and New Zealand were by this time viewing the situation in the Orient with something approaching consternation and were showing a tendency to turn more and more for assistance to the United States. The fear was expressed in those countries that, in considering Hitler as the chief adversary to be beaten, the Allies were in danger of leaving the menace of Japan unnoticed until it was too late. As the enemy pushed nearer to Singapore with the double object of reducing a formidable fortress and of securing the supplies of tin, rubber, coal, and iron of Malaya, the fear increased.

The southward sweep of the Japanese soon reached Kuala Lumpur, capital of the Federated Malay States, and thence to the Johore Straits, separating Singapore from the mainland. The island was now being defended by American airmen and sailors, as well as by British, Indians, Australians, New Zealanders, Malays, and Chinese, but both land and air approaches were left practically unguarded, even while Prime Minister Churchill was declaring: "Singapore will hold." Hammered from the back door, the fortress maintained a strange complacency. Even after the Johore Straits were crossed and, a few hours later, a new landing established west of the de-

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stroyed causeway, General Bennett announced: "The situation is well in hand." The end came, however, on Feb. 15, after but one week of siege and after 123 years of British ownership. The toil of 17 years, with an expenditure of \$170,000,000, was lost in a few hours and the illusion of impregnability rudely shattered.

### DUTCH EAST INDIES

Singapore had not yet surrendered when the Japanese began the attack on Insulinde, starting with the bombing of Tarakan and Amboyna. Soon thereafter came the first invasion of Australian territory with the landing of enemy troops on New Guinea, New Britain, New Ireland, and Bougainville, only 850 miles from the Australian mainland. Coincidentally, a pincer movement from Western Malaya placed the Minehasa district of the Celebes in Japanese hands. Yet progress into the Pacific was by no means unresisted by the American Navy. As far back as Jan. 24, 1942 there took place an encounter, hailed by some as "the greatest sea battle since Jutland," between surface ships in the Macassar Straits. Severe losses were sustained by both sides. The United States lost the *Houston* and the Dutch two cruisers, but Secretary of the Navy Knox reported that, to date, 68 Japanese naval and commercial vessels had been sunk by the Allied forces.

Meanwhile, the Japanese had pushed rapidly through Sumatra, occupied Timor, and caused "very considerable" air-craft losses to the Dutch at Surabaya in Java. The Allied fleets were now placed under the command of the Dutch Admiral Helfrich. Nevertheless, the whole of Java had presently to be evacuated, after the blowing up of all military installations and supplies—"the greatest material voluntary destruction in history." The Dutch radio finally ceased on March 7, and in three months the Japanese had extended their conquests so far over the southwest Pacific that they were now ready to move on in the direction

of India, by way of Burma, or in the direction of Australia.

### CONQUEST OF BURMA

The Japanese army did not wait for the complete occupation of the Dutch East Indies before moving on into Burma from the Malay Peninsula. The rebel Burmese, who hated both the British and the Chinese, gave invaluable assistance to the invaders as spies, guides, and combatants. As some American units participated in the British defence of Burma it is within our province to refer briefly to the sequence of events in this extraordinary campaign. It is one which had all the qualities of a hideous nightmare.

In tangled jungles elephants, with howdahs crammed with Japanese, Burmese, and Thailanders, forced their way northwards, while snipers, disguised in every variety of costume, took toll of the British and Indian troops fighting a desperate rearguard action. Heroic as it was, the defence assumed the character of a débâcle when a Japanese force, possibly not exceeding 7,000 men, covered a distance of 146 miles in six days and succeeded in occupying the chief cities of Burma from Lashio to Mandalay. Incidentally they captured most of the American supplies which had been sent for the relief of China. The last important stronghold in north Burma was occupied by May 10 and by this occupation India, as well as western China, was seriously threatened.

After May 10 Burma was but little in the war news until toward the end of 1942. The efforts of Allied airmen to head off a further Japanese advance towards India was apparently successful, though General Wavell betrayed no undue haste in initiating a counter-move. Late in December, however, American and British pilots took every opportunity to blast the air-bases and railways of Japanese-occupied Burma and, with the same end in view, to bomb very effectively the repairing and service stations at Gialam, near Hanoi, in Indo-China.

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Following this came the news of Wavell's advance 40 miles into north-west Burma, on the way to the important port of Akyab. The Japanese forces withdrew without offering opposition but, on Dec. 20, made a raid on Calcutta which was evidently intended to cut the Allied lines of supply.

The Calcutta raids were repeated for several nights in succession, but the actual casualties seem to have been small—25 killed and 100 wounded—while military installations are reported to have suffered but slightly. In the meantime the Allied air-raids southwards increased in range and intensity, with American and British bombers striking powerful blows at Akyab and at Rangoon, 270 miles to the south-east. Winging their way still farther, the Allied bombers made an attack on Sabang, in northern Sumatra, the first visit to the Dutch East Indies in several months. All this time the main British forces were driving towards Akyab along the coast and meeting with surprisingly small opposition.

### INDIA

Something must be said as to the manner in which British policy and Indian nationalist sentiment have affected the position of the United States in its general plan for winning the war. The external menace to India was further indicated by the occupation of the Andaman Islands, 800 miles from Madras, at the beginning of April and by the shelling of Colombo on Easter morning. A Japanese fleet entered the Bay of Bengal while Mandalay was still in British hands, sinking the air-craft carrier *Hermes*. The threat to India was immeasurably increased by the attitude of the National Congress party which, under the influence of Gandhi and Nehru, was demanding immediate independence as the price of cooperation in the war effort. In the attempt to conciliate the Congress the British Government sent out Sir Stafford Cripps with the offer of Dominion status after the war. This gesture failed, and a policy of

peaceful non-cooperation (not without its violent episodes) was adopted by a large part of the country. Nevertheless, the Indian Government kept the situation well in hand, and before the close of the year the Viceroy, Lord Linlithgow, was able to report that, while the campaign had been the cause of "immense damage," a happier condition was now prevailing. He added: "We are still far from the end of our troubles."

All this only affected the United States indirectly, yet, since it was necessary to coordinate the efforts of the Allies, there was involved also the necessity of strengthening the Indian frontiers by the presence of American fliers and by the sending to India of a considerable number of American technical advisers. The arrest of Gandhi and his associates, moreover, revealed the existence of a considerable body (not too-well informed) of American opinion actively sympathetic with nationalist aspirations, though naturally, for the most part, unwilling to interfere in the solution of a definitely British problem. Some bodies in India, including members of the Legislative Assembly as well as the International Student Assembly at its meeting in Washington, talked of invoking American mediation. The appeal for arbitration by President Roosevelt, or for the sending to India of a joint delegation from China, Russia, and the United States, met with stony silence from British officialdom, and the whole matter remains now one of those to be dealt with in the post-war period.

No doubt much has been going on behind the scenes of which there is little present knowledge. General Wavell's advance into Burma indicated that he had not been idle during these last months, and, so far, Japan has not revealed its hand concerning India beyond the making of sporadic bombing attacks on such places as Chittagong on the frontier and, more recently, the attack on Calcutta.

The repetition of this raid has already been noted under the section on



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Burma, and to this should be added mention of a new raid on the Andaman Islands. A more direct concern of the United States with Indian affairs was to be seen in President Roosevelt's appointment of William Philips as his representative, with the title of Ambassador at Delhi. It is not likely that the new Ambassador will interfere with matters which are purely Anglo-Indian, but the fact of his presence at the capital of British India is certain, both now and in the future, to have important influence on the policy of the United Nations.

### THE CAMPAIGNS IN CHINA

The Indian situation created more nervousness in China than anywhere else. Generalissimo Chiang Kai-shek frankly expressed the belief that Great Britain would be well advised to accept Gandhi's terms. At one point he found it advisable to visit India in consultation with General Wavell. General Stilwell, in command of the American forces in China, was in a difficult position, not only because of the risk run in getting supplies through by the Indian route, but also because Chinese unity was by no means so complete as might be desired, with a reactionary remnant of the old war-lord party and a leftist wing still active, as well as with a Kuo-mintang itself divided into two rival groups.

In the defence of Burma the Chinese offer of assistance to the British had been looked at somewhat askance, but the Indian situation aroused Chinese interest anew, since the loss of the Burma Road and, a little later, of the route from Rangoon, made it essential to plan for a back-door road into China by way of India. Not altogether unrelated to this situation was the spectacular raid, apparently based on China, carried out at this time by an American air-squadron under General James Doolittle. The number of fliers who ultimately returned in safety is still a matter of dispute but it is certain that the raid did much

damage to Tokyo and other cities and, in addition, gave Japan a bad case of jitters. One result of this raid was the immediate stepping up by the enemy of plans to prevent future raids of the sort by closing the gap in the eastern railway lines which was only partially in Japanese hands. To date, however, this effort has been incompletely successful, and indeed the gap has been considerably widened.

A further sign of increased American cooperation with China is seen in the signing of a new lend-lease agreement between China and the United States. American fliers also were now reaching China in a steady stream. Under General Stilwell's direction Generals Pai Ching-hsi, Chu Teh, and Ho Yung became increasingly active in finding avenues through which American supplies might enter China. With such supplies the Chinese made several minor gains in spite of devastating Japanese raids over Yunnan and elsewhere. Before the end of May, Kinkwa, once "a dreamy city famous for its poets," had been abandoned to the enemy for the time being while armies were being massed for its recapture.

The Chinese were at this time convinced that Japan was planning a thrust into Siberia, only awaiting a favorable turn in the German campaign against Russia. It was to counter such a move that the Chinese push into Chekiang was carried out with the idea of ousting the Japanese from the territories they had long occupied. Among the successes of this campaign are the recapture of Wenchow and, on July 4, the blasting of Hengyang on the Canton-Hankow Railway carried out by American bombers under General Chennault. Of course the fighting did not go all one way, for, on July 14, the town of Lin-chang, in Chekiang, fell to the Japanese and, for the second time, Tsing-tien, 25 miles north-west of Wenchow. Air-raids also were staged against Chung-king, whence 350,000 civilians trudged wearily to the dug-outs they had hewn for themselves during the past three years.



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On the whole, however, the fighting in this part of the war areas favored the Chinese. With small loss to themselves they forced the Japanese fliers back from the capital and pounded the enemy installations in Chekiang and Kiangsi, all this in spite of the Japanese westward advance from Wenchow and their eastward advance from Lishui. Meanwhile Stilwell's bombers were making raids in the vicinity of Canton and, a week later they killed a large number of Japanese in the Hankow barracks, while Chinese fliers, using American machines, aided in the recapture of two more railway junctions in Kiangsi. One hundred miles of railway, hitherto supplying the invaders, were now in Chinese hands. The Japanese explained their Kiangsi retreat as a shifting of battle lines in preparation for action elsewhere. Many, however, suspected that in this part of her Far Eastern war Japan was losing the initiative in spite of the enemy reports as to many American planes shot down or destroyed on the ground. Of more significance is the fact that the Chinese were now but 35 miles from Kinkwa, the Chekiang capital, and nearing the important railway town of Tungyang. Farther afield, Allied planes were again reported in raids on Hanoi, in the Gulf of Tonking.

About this time, in diplomatic circles on both sides of the Pacific, concern was felt over the recall from Washington of the popular scholarly ambassador, Dr. Hu Shih, a victim (it was suggested) of feminine intrigue. His successor's wife is the close friend of Madame Chiang. If on this account any coldness developed between China and the United States it was completely dispelled by the arrival in Chung-king of Wendell Willkie, whose presence aroused great enthusiasm, as did his declaration that offensive action was as important in Asia as the creation of a second front in Europe. Almost coincidentally in Chung-king jubilation followed the announcement that Great Britain and the United States intended to open negotiations for the

relinquishment of extra-territorial rights in China.

In the latter part of December General Terauchi, Japanese commander in the south-west Pacific, with five divisions in Burma, two in Thailand, two in Malaya, and one in Indo-China, was reported as touring the occupied parts of Yunnan with a view to launching a new offensive on Chungking, designed to cut off China from India definitely. If this drive has already started Chinese reports are to the effect that it has already been stalled. Possibly the bombing of Rangoon and the Andaman Islands by American fliers has had something to contribute towards this repulse.

### JAPANESE ATTACK ON ALEUTIAN ISLANDS

During the eventful months covered by the preceding paragraphs much happened which may be related as operations in the Pacific. First of all should be mentioned the Japanese attack on the Aleutian Islands. As early as January Alaska entered the news with the rumor that enemy ships were in the neighborhood of Kodiak, but it was not until June that the attack on Dutch Harbor, the torpedoing of a freighter at Neah Bay (off the Washington coast), the shelling by submarine of Estoban Point (Vancouver Island) and, on the 24th, the shelling of Seaside, Ore. brought the war close to the continent. By the 25th, the Japanese were reported to have landed on the Aleutian Islands of Kiska, Attu, and Agattu. In this wild country, blotted by rain and fog, Japanese bases were created, only to be pounded by American ships whenever weather conditions permitted. At the beginning of October our Navy occupied the Andreanof group between Dutch Harbor and Kiska, in the latter place sinking an enemy transport. Further bombings of Kiska followed the discovery of a Japanese submarine base there established or the revelation of enemy activity generally. The latest report of American action was Dec. 22.

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### U. S. NAVY ACTIVITIES IN THE PACIFIC

Elsewhere in the Pacific the United States Navy operated over a vast area. Before the end of January an American submarine reported the sinking of a Japanese freighter only 100 miles from Yokohama. Soon after, "somewhere in the Pacific," a 17,000-ton merchant vessel was similarly disposed of. Simultaneously it was announced that since Pearl Harbor 35 Japanese ships (one battleship, one cruiser, five destroyers, five submarines, and 23 supply and miscellaneous craft) had been destroyed. On Feb. 1 our Navy attacked a Japanese base on the Marshall and Gilbert Islands, destroying shore bases and auxiliary craft, with the loss of 11 American planes. At the beginning of March American fliers turned their attention to Japanese occupied bases at Lae and Salamaua, in New Guinea, outposts for the defense of Australia. In the continent "down under" there was at this time a mounting fear of Japanese invasion, not altogether groundless, since General MacArthur and President Quezon had already left the Philippines for Australia, and, moreover, bombs were actually dropped on such settlements as Darwin, Derby and Broome.

### BATTLE OF THE CORAL SEA

Two months later the Pacific situation brightened considerably as the result of the Battle of the Coral Sea on May 10. A Japanese fleet had shifted from the Bay of Bengal to the South Pacific. Leaving its base at Rabaul and passing the Solomon Islands, this fleet encountered an American squadron under Admiral Leary and the result, Japanese claims to the contrary notwithstanding, was an American victory. The enemy lost 17 ships sunk or damaged, while the American losses were announced as "relatively light." Testifying to the concern over Japanese naval movements felt at this time by the United Nations it may be noted that the British now took the opportunity to occupy the French island of Madagascar by way of precaution. Coin-

identally American forces commenced the creation of a first-class stronghold in New Caledonia, the 'Free French' island on the route to Australia.

Probably the most important result of the Battle of the Coral Sea, described as "a very heartening victory," was the disruption of Japanese plans through the destruction of her carriers. Unofficial Navy reports listed, up to May 9, 44 Japanese warships and 61 non-combatant vessels sunk, but the loss of the U. S. carrier *Lexington* (not announced until June 13) did something towards evening the score. The Australian Prime Minister was doubtless justified at this time in declaring: "Other battles have yet to be fought as part of the struggle which must be continued until the enemy is defeated or we are conquered." A long, grim fight was manifestly ahead to which all so far was but the overture. The publication at this time of a third list of American prisoners taken at Wake Island early in the war did nothing to abate the grimness of the outlook. Yet June opened with a naval engagement off Midway Island which President Roosevelt described as "the best news of the war." It was just six months after Pearl Harbor that a Japanese fleet was caught by Admiral Nimitz with the result that the enemy lost at least two carriers. On the American side the carrier *Yorktown* was so severely damaged that she sank, and the destroyer *Hamman* was another victim.

In the south Pacific it was reported that both Sydney and Newcastle were shelled on June 8 but without the infliction of military damage. Both Australia and India were at this time tensely awaiting Japan's next move and the result of Gandhi's civil disobedience campaign. Australia was experiencing raids on Townsville and Darwin. These were repelled by American submarines which also sank five freighters in Japanese waters. Darwin also came into the news through the arrival of 18 officers and men from the scuttled mine-sweeper *Quail*. They had traveled over 2,000

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miles by sea between May 6 and June 6.

### AMERICAN PACIFIC OFFENSIVE

The above-mentioned incidents coincided, however, with a new Japanese push from Kokoda in New Guinea towards Port Moresby, a serious threat which, early in August, was met by the first signs of an American Pacific offensive. This came off in the Aleutian area to which reference has been made and in the Tulagi district of the Solomon Islands. At both ends of this long arc naval activity continued throughout August. General Arnold reported that, since the beginning of the war, 1,010 American planes had engaged 1,459 Japanese planes, destroying 190, with an American loss of 104. While American aircraft were thus giving a good account of themselves, reaching out as far as Central Timor, the marines were doing their part in the Solomons. Many ships bringing supplies to the enemy were sunk and several destroyers sunk or damaged. Barges also were bombed at Buna in New Guinea, though (to even the score) the American destroyer *Blue* and the auxiliary transport *Calhoun*, were sunk about the same time, with some casualties.

### GUADALCANAL AND NEW GUINEA

By mid-September Japanese reinforcements were landed on Guadalcanal, in the Solomons, and bombed the American bases. In New Guinea American fliers returned the compliment, destroying 20 Japanese planes. Nevertheless, Japanese infiltration continued towards Port Moresby, with lightly-equipped, cleverly camouflaged troops, so that at the time the situation looked a little black. The enemy was now but 30 miles from Port Moresby, but with Australian and British rangers contesting every step. The crossing of the Owen Stanley Mountains placed the initiative definitely in the hands of the invaders, but, everywhere within reach, American Flying Fortresses attacked the Japanese ships and reported

"possible hits" on two battleships. Unfortunately (as was revealed as late as October 26) the American fleet also sustained damage in the loss of the carrier *Wasp*, yet the Japanese attempts to recapture the Guadalcanal airfield failed and the American position was generally greatly bettered.

The month closed with little change in the Far Eastern situation. General MacArthur announced that in New Guinea, United Nations soldiers had reached Efugi in an advance towards the Owen Stanley Mountains, while the Japanese were still preparing for the recapture of Guadalcanal by landing reinforcements. A change much for the better came on Oct. 10 when our Navy sank an enemy destroyer, damaging another cruiser and destroyer. Heavy damage was also inflicted on the Japanese bases at Lae and Rabaul, while the effort to establish contact with the retreating foe in the Owen Stanley Mountains gradually approached success. In the last two weeks of October the battle for the Solomons developed rapidly. A powerful Japanese fleet was still endeavoring to take Henderson Field and expel the marines. With the odds numerically favoring the Japanese, some large-scale fighting ensued, but the Americans maintained superiority in the air.

Full appraisal of the losses on either side is not yet available, but the operations were more than locally significant. It was just as necessary for the Japanese to delay the northward push of the Allies as for these to repel further Japanese moves to the south. In the last days of October the situation looked bad for the United Nations, but the Navy has grown much stronger and more active, bombing Rabaul, sinking patrol boats, and damaging ships in the vicinity of the Gilbert and Ellice Islands.

Whether this increased activity had any connection with the replacement of Vice-Admiral Ghormley by Vice-Admiral Halsey was, of course, a matter of dispute; the fact is that the



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change was coincident with a distinct shift from the defensive to the offensive. Large scale attacks on the Japanese fleet were at once launched. The opening stage was indecisive, since an American carrier (damaged and left unsalvageable) was sunk, while a Japanese cruiser (another severely damaged) was reported destroyed during the bombing of shipping in the neighborhood of Buna.

The second round of the Battle for the Solomons, concluded on Nov. 17, resulted in an important American victory, though a characteristically different version was put forth by the Japanese. Our Navy reported 23 enemy ships sunk and seven damaged, with the loss of but eight of our own vessels. The Japanese reported but five ships sunk and three damaged. It was conceded, however, that the Japanese fleet had retired northward, leaving the field to the Allies. On the same day General MacArthur announced the movement of his forces closer to Buna in New Guinea, and raids were made on Timor and New Britain.

### YEAR-END SUMMARY

The year ended with an America feeling that the tide of war has definitely turned, and this feeling was supported by substantial evidence. The Japanese fleet, weakened in many an encounter, was almost everywhere on the defensive, while the fleets of the United Nations were growing in manpower and in strength of equipment from day to day. In the Solomons the Japanese were pinned down to their last beach-heads on Guadalcanal, while in New Guinea the last footholds in the Buna area were slowly being wrested from Japanese control. In the Aleutians the precarious hold of the enemy on Kiska was rendered innocuous by the watch-dogs of the American Navy and can now scarcely be regarded as a menace to the Pacific Coast. From India the reorganised army of General Wavell was slowly but surely making its way to Akyab, on the Burmese frontier, while American aircraft were blasting their way far ahead of

the ground forces. In China, too, where more than one recent Japanese campaign has been either repulsed or stalled, General Stilwell was patiently and courageously massing his forces for the all-out assault through which it is hoped the invasion of the Japanese Empire itself may be attempted. All in all, while the march to complete victory was still slow, all the signs pointed to its being on the way.

### CRITICISM AND RESULTS

At this time some backstage criticism was being voiced, both in Congress and elsewhere, as to the conduct of the entire Pacific campaign. This criticism dealt with the basic strategy of the war, the part played respectively by the Army and Navy, and with the asserted need for a unified command, yet, in spite of all, there was much reason for satisfaction. In November the Japanese had been pushed down the trail from the Owen Stanley Mountains, forced out of Kokoda, and pressed towards the beach-heads of Buna, where they were in danger of extermination. At the same time American fliers attacked Kahilia, on the island of Bougainville, having previously bombed the Munda district of New Georgia. All counter-attacks by the Japanese at Buna and elsewhere were repelled and every effort by enemy naval units to land relieving forces was foiled.

Meanwhile United States submarines were taking a heavy toll of Japanese shipping, and attempts on the part of the enemy to regain the initiative were thwarted. Though reports from Tokyo continued to be optimistic and much was made of the amount of new naval construction, on the anniversary of Pearl Harbor, Secretary Knox was justified in speaking of Japan's steadily diminishing strength. Nevertheless, as the last month of the year opened, President Roosevelt continued to urge caution, declaring that, even after three rounds, the Battle of the Solomons was, relatively, "not a major engagement." He said further that, even were the United Nations



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driven from the islands, it would not constitute a major defeat. All signs at this time continued to point to a long war of attrition, with the Japanese gradually retreating towards the home front and the Allies mustering an ever-increasing strength.

The comparatively slow progress of this war of attrition during the past few days nevertheless reflects the increased effectiveness of our anti-aircraft guns in bringing down Japanese planes and the extended range of our bombers over a far-flung area of enemy-occupied territory. Shipping has been blasted from Haiphong to Canton and few reinforcements have been permitted to reach the Solomons or New Guinea. The entire Gona area was in Allied hands before Dec. 10 and the Buna beach-heads, under heavy fire, have shrunk almost to non-existence. That all this was accomplished without loss is, of course, improbable. In fact the announcement, on Dec. 12, that the 22,000-ton *President Coolidge* had been sunk by striking a mine is a hint in this direction. It is important also to note that on the anniversary of Pearl Harbor the Navy Department released the story of much heavier losses than were at first conceded: "Five battleships had been sunk, or so damaged that they were useless for some time. Five other warships suffered the same fate, and less serious damage was inflicted on eight other

war vessels." This was something of a shock to the public, but the release was accompanied by the statement that the total damage had to-day been almost entirely repaired.

### THE OUTLOOK

On the whole, while giving due heed to former Ambassador Grew's warning that Japan is not likely to crack as speedily as some have predicted, it may be assumed that the rapidly increasing momentum of American preparedness for total war affords a fairly safe assurance of being now on the road to victory in the Orient as in the West. No doubt many things remain to worry us, among which the slow process of repatriation for Americans left in the occupied lands is not the least. Indeed, of conditions in these occupied lands, whether affecting foreigners or the general population, little or nothing is known. Of Japanese internal affairs little more is known than that Premier Tojo has made a change in the Foreign Office in order to create his new Ministry of East Asian Affairs, but what the details of this change are we so far know nothing. Morale in the Empire still appears high, but the general strain must be enormous. A Chungking rumor speaks of the suicide of the Manchukuo Premier, but it may be long before we know the truth. Fortunately it is not our task to evaluate rumors.

## THE WAR AND THE NEAR EAST

BY WILBUR W. WHITE

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### AMERICAN PRESTIGE IN NORTH AFRICA

It has been interesting to notice the way in which the Near East began to solidify behind the Allies when our forces went to work on a large scale in North Africa. This was the America of wealth, strength, and invincibility. Its armed forces were beginning to take the offensive, and in a nearby theater of war. It

was also the America of education, philanthropy, and the Near East Relief. Probably in no part of the world has this country so exercised influence without imperialism, and our action was more than welcome. The people of the Near East, listening partly to sentiment and partly to self-interest, began to see ahead some of the answers to their critical problems. With the large-scale par-

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ticipation of the United States, an Allied victory became a very real possibility. If the United States would share in the reconstruction of that area, protection for small peoples might be hoped for without the dangers of imperialism.

### AMERICAN HELP IN THE MEDITERRANEAN AREA

Even before the invasion American forces had participated on a larger and larger scale in assistance to the British and their allies operating in the eastern Mediterranean area, both on land and sea. Although a number of Americans had been serving for some time in British units, real aid from the United States began to develop late in the spring. At first our contribution was chiefly in equipment, and American planes and tanks appeared in growing numbers.

From early May onward this American equipment was operated by United States troops. The second week in June our forces participated in a major tank action in Egypt, and thereafter they and the American aviators carried out assignments almost daily. The American Field Ambulance Service was also performing invaluable service in North Africa.

Means of keeping this assistance at top strength were not neglected. In September Major General Russell L. Maxwell, our Middle East commander, reported that the supply installations in Eritrea were being completed ahead of schedule. Likewise Liberia was cultivated to insure the ferry route into central Africa. On Dec. 3 Washington announced that an agreement had been reached with Liberia by which, in return for our protection, that country would grant us the right to control the airports of the country.

Throughout most of the year there remained the general feeling noted in earlier years of the war, that the Near East and particularly its oil fields formed a major Axis objective and that Hitler would make a large-scale effort to drive through toward India. In such a case no area between Moscow and Africa was safe. As a matter

of fact the two chief threats developed at the extremities in southeastern Russia and in Egypt rather than in the middle through Turkey or across the Mediterranean. Some observers felt that Russia and the British would hold. Some felt that it was imperative that the United States should arrive with real aid. By the end of the year the British and their allies in North Africa and the Russians on their home soil had held. The United States also was finally asserting real offensive strength. Rightly or wrongly it appeared to most observers that the Near East had just passed its worst year of the war.

### SYRIA

The main problem in the relations of Syria and the Lebanon on the one hand and the United States on the other during 1942 was that of recognition. The independence of these areas had been proclaimed on Sept. 27, 1941, and the Syrians and Lebanese were particularly desirous that their independence should be recognized by the United States. That became more logical in their view with our active entrance into the war, and on Sept. 11 Sheik Taj Eddin Hassani, President of Syria, stated that he considered that Syria had the right to expect recognition at an early date by the United States. Such recognition was not immediately forthcoming but a step in that direction came Oct. 2 when President Roosevelt nominated George Wadsworth to be Diplomatic Agent and Consul General at Beirut and Damascus. Wadsworth is a career man in the foreign service and his reputation in the Near East after his term of service in Jerusalem and elsewhere makes him highly acceptable in Syria and the Lebanon. Moreover, he is not merely a consul but also formally a Diplomatic Agent, apparently a step toward formal recognition of Syria and the Lebanon by this country.

On Nov. 22 both President Hassani and President Alfred Nacache of the Lebanon sent letters of congratulation to Washington for our success

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in North Africa. Hassani also added that the resources of Syria would be at the disposal of the United States until victory was achieved.

### IRAQ

During 1942 things went much more smoothly in Iraq than they had during 1941. The government, under General Nuri es-Said as Prime Minister, attempted to live up to its obligations under the terms of the alliance with Great Britain. According to the Prime Minister the anti-British feeling in the country had been pretty well cleared out following the revolt of 1941, though foreign observers were inclined to think that the effects of Axis propaganda had not worn off and that the United Nations should combat it more actively.

As elsewhere, the local population was drawn somewhat to the cause of the United Nations by the action of the United States. On May 2 President Roosevelt announced that lend-lease aid would be extended to Iraq and two days later he received the first minister from that country to be accredited to Washington. Following the attack in North Africa it was announced Nov. 21 in Washington that the Iraqi Prime Minister had sent a letter of congratulation on the success of the campaign there, and had declared that our opening the front in North Africa had caused rejoicing throughout all the Arab world.

These significant developments bore fruit shortly after the turn of the year when (Jan. 16, 1943) Iraq joined the United Nations by declaring war on Germany, Italy, and Japan. This action was communicated to Secretary of State Cordell Hull by the Minister of Iraq; Ali Jawdat al-Ayoubi, at Washington.

According to reports many of the outlying oil wells of the country were sealed in the early months of the year against the possibility of invasion, and it was positively stated that the rest would be destroyed if Axis troops entered the country. Fortunately, during the year, Hitler was unable to

approach this valuable source of supplies.

### IRAN

Although the oil of Iran was also an Axis objective in case of invasion the chief activity in that country during the year was connected with the development of the supply routes to the Soviet Union. In January plans were laid for an American port at the head of the Persian Gulf to speed the handling of aid to Russia.

On Jan. 29 there was signed at Teheran a treaty between Iran on one side and Great Britain and the Soviet Union on the other, regularizing the position of the two great powers in the country. It was essentially a defensive alliance by which the great powers promised to defend Iran if attacked, in return for which the maintenance and passage of their troops would be allowed in the country. Iran remained responsible for internal order, and the agreement included a promise that the troops would be withdrawn six months after the end of hostilities. Consultation on matters under the treaty was provided for, and in addition Great Britain and Russia promised to safeguard the economic life of Iran against difficulties arising as a result of war.

The main interest of the United Nations in the country was the communication system. By the beginning of 1942 traffic on the Trans-Iranian Railway had reached four times the normal volume, and further increases were noted practically every month. The making of Iran into a major supply route involved all kinds of technical development, and everything was done which was possible to enlarge this and other arteries of traffic.

After the British and Russians had come into the country in 1941 the Japanese legation became the focus of Axis agitation. As a result, on April 14, 1942 the Japanese minister and his staff were ordered to leave the country.

On May 2 President Roosevelt announced that lend-lease aid would be extended to Iran as well as Iraq. On

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July 31, due to problems that were reported as being solely internal, Ali Soheily resigned as Prime Minister, and four days later Ahmad Quavam Sultaneh was appointed in his stead. On Aug. 5 he announced his intention to establish a ministry of supply with experts from the United States to organize the new office.

### EGYPT

During 1942 one of the chief problems in Egypt was the question of the relation of the country to Great Britain and to the United Nations in general. Recent governments had not been considered particularly friendly to Great Britain, but the Wafd, the largest party, had refused to participate in the cabinets on the grounds that the last elections had been unfair. It was significant, therefore, after the resignation of Hussein Sirry Pasha on Feb. 2, that the Wafd leader, Mustapha Nahas Pasha, agreed on Feb. 4 to form a National Union government. This he did the following day, including all parties in his cabinet.

Some idea of the internal tension created by the problem of foreign policy can be gathered from two incidents which occurred during the year. On April 8 it was announced that Aly Maher Pasha, a former Prime Minister, had been arrested, as the Government stated, for the "security of the state." On July 13 the Wafd expelled from its party ranks 15 deputies and four senators who had been particularly critical of Nahas. Makram Ebeid Pasha, who had been finance minister, the leader of this group, stated they would join the opposition, but on July 23 he said he would form a new opposition party with a nucleus of 26 members of Parliament. Even with a coalition government, however, Nahas appeared perfectly safe with a majority of over 300 out of 411 seats.

Egypt also was made happier by our attack in North Africa. Americans were welcome there, and by December the friendliness had risen to the place where there was an exchange of letters between govern-

ments, and the king made a Christmas gift of money (\$8,000) to the American troops in his country.

### PALESTINE

During 1942 Palestine was drawn more largely into the war effort but the chief interest in the country within the United States seemed to center about old questions and new variations of the old questions. Numerous meetings and statements by both Jews and non-Jews indicated the wide interest in Zionist aims. Of major importance, of course, was the traditional question of immigration. Thirty thousand refugees entered Palestine in the first 30 months of the war but it was held that a far larger number should be admitted in the future.

A new variation on the old claim for a Jewish state in Palestine turned up in the insistence for a Jewish army under its own flag. At first the Palestinian enlistments were on a 50-50 basis and the number of Jews was limited by the number of Arabs. Later, however, more Jews were admitted and of the total of over 20,000 in the armed forces they outnumbered the Arabs about two to one. There was much feeling in the United States, however, that the Jews ought to be able to have their own army. The British, on the other hand, considered that the Jews were Palestinians and should fight in Palestinian contingents.

A new policy in this connection was announced on Aug. 6 by Sir James Grigg, British Secretary for War. The Government proposed, he said, to create a Palestine regiment for Palestine defense consisting of separate Jewish and Arabian infantry battalions. In this new regiment the principle of numerical parity would not be adhered to. This new policy obviously permitted unlimited enlistment of Jews but did not satisfy the claims for a Jewish army. Throughout the year these claims continued, accentuated in November by the celebration of the twenty-fifth anniversary of the Balfour Declaration and re-iteration of that policy by Jews



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and non-Jews alike, including a resolution sent to President Roosevelt by a large number of senators and representatives on Dec. 4.

These declarations were not unanimous. In June a number of non-Zionist reform rabbis in this country stated their opposition to a separate army and a Jewish commonwealth in Palestine, and a dispatch from Jerusalem on Sept. 4 described a new Union Association in Palestine. This group, headed by Judah L. Magnes, favored a Jewish home in Palestine but not a Jewish state. They felt co-operation and union with the Arabs was essential and that there should be equal political rights for the two groups.

### TURKEY

During the year Turkey was torn between rumors of Russian demands on Turkish territory and the threat of German invasion. The result of these conflicting forces was a terrific war of nerves during the first months of the year, highly accentuated by the bomb attempt on the life of Franz von Papen, the German ambassador, on Feb. 24. Threads of the plot were traced into the Soviet consular staff in Istanbul and into a German unofficial group also. Although the Russians claimed the bombing was a Nazi plot the Turks arrested certain Russians, and the strain on Russian-Turkish relations was greater than it had ever been since the last war. In spite of the difficulties, however, Turkey maintained its neutrality, and by summer the threats from both sides seemed to have been reduced.

In July there was a change of government with the death of Refik Saydam, the Prime Minister, on July 7. Two days later Sukru Saracoglu, who had been foreign minister since 1938, was made Prime Minister, temporarily keeping the foreign ministry also. He was later replaced in this latter capacity by Numan Menemen-

cioglu, long an under-secretary in the foreign office. These changes apparently guaranteed no essential shifts in foreign policy. In fact, on Aug. 5 the National Assembly gave the new Prime Minister a unanimous vote of confidence after a broadcast on problems in which he reaffirmed government efforts at neutrality and the loyalty of Turkey to her pacts with Great Britain and with Germany. He stated, however, that if Turkish territory was attacked Turkey would fight. This statement of policy was more or less repeated on Nov. 1 when President Inonu spoke at the opening of Parliament.

On Aug. 3 a Cairo dispatch stated that Germany had offered 24 of her latest type planes to Turkey for immediate delivery if the Turks would permit German technicians to accompany the planes. It was thought that Turkey might refuse the offer because the technicians were considered an entering wedge. On Sept. 29 a dispatch from Ankara stated that Turkey was preparing to send 45,000 tons of chrome to Germany under the 1941 agreement. Under the terms of the agreement delivery would begin Jan. 15, 1943, a week after the current British chrome contract ends, if 18,000,000 Turkish pounds worth of German arms were delivered in Turkey before that date. As the year closed there was no indication that the arms had arrived in Turkey.

With the close of the year, also, due in part to the efforts of the British ambassador and perhaps even more of the United States ambassador, Turkish-Russian relations were better than they had been for a long time. The British had apparently convinced the Turks that the Russians were making no claims for the Straits or other Turkish territory, and the American offensive in North Africa made it easier for our ambassador to obtain the favor of Turkey for the United Nations.

# THE UNITED STATES AND LATIN AMERICA

## THE UNITED STATES AND LATIN AMERICA

BY GRAHAM H. STUART  
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### THE AXIS AND THE AMERICAS AT WAR

The attack of the Japanese on Pearl Harbor brought the Second World War into the Western Hemisphere. In as much as continental solidarity and hemispheric defense had been accepted by the 21 American republics at the conferences at Panama in 1939 and at Havana in 1940, the two Americas now had an opportunity to prove that promised cooperation meant more than high-sounding declarations.

Within four days after the United States had become a belligerent, nine of the Latin American republics, including Central America and the Caribbean states, declared war on the Axis powers. Before the end of December 1941, Mexico, Colombia, and Venezuela had severed diplomatic relations, and during the Rio de Janeiro Conference in January 1942, six more South American states took similar action, only Argentina and Chile remaining neutral.

As a result of the sinking by U-boats of several of its tankers, Mexico declared war in mid-August. Brazil declared war upon Germany and Italy as of Aug. 22. Thus by the end of the year 12 of the American Republics were at war, seven had broken relations with the Axis, and two remained neutral.

### THE RIO CONFERENCE AND ITS RESULTS

The third consultative conference of American Foreign Ministers met at Rio de Janeiro Jan. 15-28, 1942, to determine the policy of the Americas against foreign aggression. Every American republic had abundant proof that Axis propaganda and subversive activities were rampant throughout the Western Hemisphere and that the German embassies, lega-

tions, and consulates were the sources of these dangerous activities. Therefore the minimum requirement for self-protection in the Americas was a severance of diplomatic relations with the Axis powers to stamp out this evil at its roots.

Fifteen of the Latin American delegates to Rio were ministers of foreign affairs, and Oswaldo Araña, Foreign Minister of Brazil, and Ezequiel Padilla, Secretary of Foreign Affairs for Mexico, were especially friendly to the United States and played leading roles in persuading the Conference to take unified and effective action. At first it looked as though a resolution sponsored by Colombia, Mexico, and Venezuela, declaring that the American republics "can not continue diplomatic relations with Japan, Germany and Italy" would have unanimous support, but Argentina balked and was supported by Chile, so that the wording of the resolution as voted unanimously merely "recommended rupture of diplomatic relations" as each country should determine. Peru, Uruguay, Bolivia, Paraguay, Ecuador, and Brazil broke off relations with the Axis powers before the Conference closed.

The final act of the Rio Conference comprised 41 declarations and resolutions of which the first and most important recommended the severance of diplomatic relations with the Axis powers. The second and third were concerned with the production and exchange of strategic materials essential to hemispheric defense and encouraged the formulation of a co-ordinated general plan for economic mobilization. The fourth recommended a complete coordination of transportation facilities and the improvement of all inter-American communications by land, water, and

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air, including the construction of the unfinished sections of the Pan American Highway. The fifth provided for an almost complete economic boycott of the Axis powers, but Argentina and Chile entered reservations to this resolution. Other resolutions aimed at the combatting of subversive activities and the control of dangerous aliens.

Various agencies already established for Pan American cooperation, such as the Inter-American Development Commission and the Inter-American Financial and Economic Advisory Committee, were supported and strengthened. It was recommended that an Inter-American Joint Defense Board, composed of military and naval technicians appointed by each government, should be immediately set up in Washington to study and to recommend measures for the defense of this continent. The Board met for the first time March 30, 1942, and is now functioning effectively to this end. Finally various resolutions supporting the principles of international law were passed, including a resolution which gave adherence to the principles of the Atlantic Charter.

The Rio Conference although based upon idealistic principles, was realistic in its methods and its proposals. The United States needed bases, strategic materials, and freedom of action; the Latin American republics needed financial assistance, supplies, and protection. The Conference provided for a mutually advantageous exchange.

### WARTIME ECONOMIC COOPERATION

The war dislocated the national economies of the Latin American republics to such an extent that the United States found it advisable to try and assist them in every way possible. Financial assistance was facilitated by the additional \$500,000,000 which the Export Import Bank was authorized to extend in the form of credits to help Latin America develop its resources, stabilize its finances, and market its products. At the beginning of 1942 active commit-

ments to Latin America amounted to almost \$400,000,000. During 1942 the policy was continued even to the extent of authorizing a loan on March 6, 1942 for railway equipment for the Chilean State Railways, although Chile had not yet broken off diplomatic relations with the Axis powers. In April a \$25,000,000 credit to Peru was made available by the Export Import Bank for the construction of public works and various industrial projects, which, however, has not as yet been utilized.

Another serious problem was shipping, due to the serious losses by submarines and the severance of all transportation by the Axis lines. The United States transferred a number of vessels over to Latin American trade routes, assisted the Latin American states in taking over idle foreign flag ships, and where necessary granted transportation priorities. The number of United States flag vessels in Latin American trade was more than doubled, and about 100 European flag ships, adding about 500,000 tons, were taken over. On June 28 Brazil placed the movements of her entire sea-going merchant marine of about 300,000 tons under the jurisdiction of the Allied Shipping Control Board.

The United States recognized the need of maintaining this economic stability of the other American republics, and through the Board of Economic Warfare, in cooperation with the Department of State and the War Production Board, every effort was made to facilitate essential exchange of commodities. A quarterly allotment was made to the various Latin American republics of specific quantities of iron and steel, chemicals, farm equipment, and other products vital to their national economies. An Inter-American Conference on Systems of Economic and Financial Control was held in Washington at the end of June to coordinate these procedures.

Preclusive purchasing agreements of strategic materials were made with various Latin American states, both to keep their supplies from the Axis

## THE UNITED STATES AND LATIN AMERICA

powers and to keep an abundant supply available to the United Nations. For example, the Metals Reserve Company made overall agreements with Brazil for bauxite, chromite and manganese, and other minerals; with Bolivia for tungsten and tin; with Mexico for practically all of its exportable surplus of minerals; with Peru for antimony, copper, and vanadium; and with Chile for copper, manganese, lead, and zinc. Rubber Reserve made similar arrangements for rubber with Brazil, Peru, Bolivia, Colombia, Ecuador, and several Central American States.

The United States also bought up surpluses where it seemed necessary. For example, Defense Supplies Corporation bought up reserve stocks of Chilean nitrates. Late in April, 1942, an agreement was signed between the United States and Peru whereby the former agreed to purchase all of Peru's surplus cotton.

### ECONOMIC ACCORDS WITH BRAZIL

The most comprehensive of these economic arrangements were those signed with Brazil on March 3, 1942. These accords provided for a complete mobilization of the productive resources of Brazil with credits to the amount of \$100,000,000 to be made available by the Export Import Bank. A \$5,000,000 fund was to be established by the Rubber Reserve Company, a United States government agency, to assist Brazil to develop raw rubber production and to purchase all available for a five-year period. The Export Import Bank and Metals Reserve Company signed agreements with the Brazilian finance minister and the British ambassador for the development of the Itabira iron mines and the Victoria Minas Railroad, and the acquisition of the high grade ores by the United States and Great Britain. The arrangement also included the transfer of military material under the Lend-Lease Act to the extent of \$100,000,000. Subsequent agreements, signed in August, provided for the purchase of barbasco

and castor oil, and in October for cocoa, coffee, and Brazil nuts.

### RECIPROCAL TRADE AGREEMENTS

The United States made every effort to bring all the Latin American republics not yet included into the Hull Reciprocal Trade Agreement program. On April 4, Mexico and the United States formally announced their intention to negotiate a trade agreement, and on Dec. 23 the arrangement was signed. Intention to negotiate such agreements was also announced with regard to Bolivia, Uruguay, and Peru, and before the year ended agreements were signed with Peru and Uruguay, the former on May 7 and the latter on July 21. With the inclusion of the Mexican agreement, the United States had signed 27 agreements under the Trade Agreements Act, of which 15 were concluded with other American republics.

### MEXICAN COOPERATION

Nowhere have the results of the Good Neighbor Policy been more satisfactory than in our relations with Mexico. At the Rio Conference it was Foreign Minister Padilla's impassioned address which aroused the delegates to the ardent support of the resolution to break with the Axis. Early in April, 1942, announcement was made of a program of close economic collaboration with Mexico whereby there might be established in Mexico certain basic industries to meet Mexican consumers' needs, and to supply goods required by the war effort of the United States, among others a steel and tinplate rolling mill.

Mexico was authorized to establish a special office in Washington to collaborate with United States authority, to insure the most satisfactory handling of priorities and allocation matters. Arrangements were made for a survey of the Mexican railway transportation system under a joint committee of United States and Mexican experts. Experts were also commissioned to determine what con-



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

struction of small cargo vessels in Mexico was feasible. It was agreed that a high octane gasoline plant should be constructed as soon as the necessary equipment might be spared.

### **OIL SETTLEMENT WITH MEXICO**

Before April ended announcement was made that the experts appointed by the two governments, under the arrangement of Nov. 19, 1941, to fix the value of American oil companies' properties confiscated by the Mexican Government, had reached an agreement. The amount fixed was \$23,995,991, of which the Standard Oil of New Jersey was to receive \$18,391,641. Standard Oil of California \$3,589,158, and the smaller companies the remainder. The companies were released from all claims present or future except for unpaid taxes and duties. Although, according to valuations set by the companies, the payment would amount to only seven cents on the dollar, a refusal to accept would leave the companies without governmental support in any further attempt to collect. Apparently the settlement was based upon a physical valuation of the properties without giving consideration to the value of the subsoil rights. Both President Roosevelt and President Camacho expressed themselves as pleased with the settlement.

### **U. S.-MEXICAN WAR COLLABORATION**

With the declaration of war upon the Axis powers by Mexico on May 22, the two governments entered into much closer military relationships. The 1941 agreement for the reciprocal use of air bases was enlarged. Through the Joint Mexican United States Defense Commission, close liaison was established particularly along the Pacific coast in Lower California. United States warships were permitted to use Mexican bases and territorial waters, United States troops could cross Mexican territory, and our planes fly over it. Under lend-lease provisions Mexico was authorized to purchase war equipment up to approximately \$30,000,000, and

Mexico immediately arranged to purchase from the United States about 150 Mosquito type torpedo boats to aid in coastal defense, and a number of bomber planes.

All Axis nationals were removed from coastal areas, financial transactions of Axis enterprises were subjected to licenses, and the United States black list was more rigidly enforced. An agreement of Aug. 13, 1942 prohibited the circulation of all United States currency in Mexico, except \$2 bills, thus blocking the use of Mexico as a clearing house for American currency confiscated by the Axis. A less direct arrangement to aid in the war effort was made in August when a joint agreement permitted several thousand Mexican agricultural workers to work in the United States harvest fields with their transportation and food and lodgings taken care of and a minimum wage of 30 cents an hour established.

### **CONCESSIONS TO PANAMA**

On Aug. 13, 1942 President Roosevelt in a message to the Congress recommended certain concessions be granted to the Republic of Panama which might correct certain factors in our relations which had not made for confidence and friendship. The three proposals were (1) to convey to Panama the water and sewerage systems in the cities of Colon and Panama which by the Canal Convention of 1903 were to become the properties of these cities in 1957, provided that the Republic of Panama pay a reasonable rate for the water supplied by the Canal Zone authorities, and providing the public health services be adequately maintained; (2) that the United States relinquish its extensive real estate holdings in the cities of Colon and Panama so far as these holdings were not essential to the operation and protection of the Canal, and convey to the Republic of Panama its right, title, and interest as well as its reversionary rights; (3) to liquidate the credit of \$2,500,000 made available to the Republic of Panama by the Export Import Bank for the construction of Panama's

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share of the Chorrera-Rio Hato Highway, a road constructed primarily for the defense requirements of the Canal and the United States. This last proposal was merely carrying out a promise made by the United States in June of 1941 when Panama agreed to transfer the responsibility of construction from Panamanian authority to the Public Roads Administration of the United States, the transfer being effected Dec. 29, 1941.

Some objections were raised in the Senate due to the fact that the agreement was made in the form of a joint resolution under agreements negotiated by the State Department. By this procedure it was pointed out that a change in a treaty would be brought about by a majority vote of the Congress instead of by a two-thirds vote of the Senate. However, when the resolution came to a vote early in December the Senate approved the resolution by a vote of 40-29, which more than met the two-thirds requirements.

### DEFENSE OF THE PANAMA CANAL

Panama has cooperated very loyally with the United States to give the fullest possible protection to the Panama Canal. On May 18, 1942 an agreement was signed permitting the United States to establish numerous defense areas in Panama outside of the Canal Zone. The largest of these was the Rio Hato air base situated about 80 miles southwest of the Canal, for which the United States was to pay an annual rental of 10,000 balboas. The other public lands utilized were all granted for an annual rental of one balboa, while private lands were to be paid for at an annual rental of 50 balboas per hectare. The United States had the right to use the waters adjacent to these lands and to construct necessary highways to utilize them effectively. The United States also agreed to construct a highway from Pina on the Atlantic side to the Zone and to extend the Trans Isthmian Highway *via* Machinal, Roque, and Pueblo Nuevo into Panama City. All lands taken

over were to be evacuated one year after the definite treaty of peace.

### THE UNITED STATES AND BOLIVIA

Since General Peñarando became President of Bolivia in 1940, relations with the United States have improved steadily. Late in 1940 Metals Reserve signed an agreement to take 18,000 tons of Bolivian tin annually, and on May 1, 1941 this country agreed to take the total output of Bolivian tungsten for three years. Both of these agreements were revised in 1942 as a part of a new program for economic and financial cooperation between the two powers based upon recommendations made as a result of a six months' survey made in 1942 by a United States technical mission. An agreement was also entered into with Bolivia for the purchase of Bolivian production of raw rubber.

An elaborate sanitation agreement was signed with Bolivia through an exchange of notes dated July 15 and 16, 1942, whereby the Government of the United States through the agency of the Coordinator of Inter-American Affairs was to provide an amount not exceeding \$1,000,000 for the cooperative development of a health and sanitation program including general disease control by clinics and public education, malaria control, yellow fever control, cure of lepers, and environmental sanitation. A group of medical and sanitation experts from the United States were to work in close cooperation with appropriate officers of the Bolivian Government.

On Aug. 11, 1942 an agreement was signed between Secretary of State Hull and Ambassador Guachalla, providing for the detail of a military mission to Bolivia. The term was for four years with the privilege of extending it at the request of the Bolivian Government.

### STANDARD OIL SETTLEMENT WITH BOLIVIA

Perhaps the most important diplomatic event of the year concerning Bolivia was the negotiated solution of

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

a serious question of claims through an agreement reached Jan. 27, 1942 for a settlement with the Standard Oil Company. The Standard Oil properties alleged to be worth some \$17,000,000 were confiscated by the Toro government in 1937. The grounds were alleged fraud on the basis of clandestine exportations through Argentina and a failure to pay increased surface rentals. A press campaign also asserted that the Standard Oil Company failed to provide normal deliveries needed for the Bolivian army in the Chaco War.

It was no secret that Standard was willing to accept almost any terms permitting legal withdrawal. Therefore the Bolivian Government obtained a settlement on a basis of less than 10 per cent of the oil companies investment. The Bolivian Government agreed to pay Standard Oil Company (New Jersey) \$1,500,000 for the sale of all its rights, interest, and properties as they existed in March 13, 1937 with interest at 3 per cent from that date. The agreement entered into voluntarily was to be regarded as having terminated satisfactorily and amicably all the differences between Bolivia and the oil company. Announcement was made of the payment of \$1,729,375 to the Standard Oil Company on April 22, 1942.

### THE UNITED STATES AND CHILE

At the Rio Conference Chile played a negative and obstructive role in spite of the fact that she was one of the instigators of issuing the call for the conference. Together with Argentina, Chile refused to take a vigorous stand against the Axis powers nor was she willing to sever diplomatic relations with them. Several reasons were advanced—a forthcoming presidential election, her long unprotected coast line, and the inability of the United States to assist effectively in its defense. Unquestionably the important Nazi element, influential particularly in army circles, was another important reason.

With the election of Juan Antonio

Rios on Feb. 1, 1942 on a platform of continental solidarity, it was expected that Chile would take a definite stand against the totalitarian states. However, Foreign Minister Barros Jarpa counseled a continuation of neutrality, and Chile took no action to sever political, commercial, or financial relations with the Axis powers. Neither did Chilean officials responsible for the investigation of subversive activities cooperate wholeheartedly with the United States Embassy.

In the fall of 1942 President Rios accepted the invitation of President Roosevelt to visit the United States, but when it was evident that no breach with the Axis would occur before President Rios began his trip Under Secretary of State Sumner Welles declared in a public address on Oct. 8, that certain South American republics were not preventing Axis espionage which had resulted in the sinking of United Nations ships in the Western Hemisphere. The Chilean Government protested this allegation, and President Rios postponed his visit. President Roosevelt in a cordial reply voiced his regret at this postponement and expressed the hope that President Rios would come later, but did not withdraw the accusation.

On Oct. 20 the entire Chilean cabinet resigned, and in the new cabinet the Chilean ambassador to Uruguay, Señor Fernandez took the portfolio of foreign affairs. Early in November the Inter American Committee of Political Defense released to the press a lengthy memorandum proving the allegations of the United States. The Chilean Government issued decrees immediately expelling the various German nationals against whom evidence had been secured. Late in November President Rios declared that he would visit the United States "at a time which will seem both to him and to President Roosevelt appropriate." The year ended without either a break with the Axis or the visit of President Rios, but the break with the Axis came early in the new year (Jan. 20, 1943). The signing of

## THE UNITED STATES AND LATIN AMERICA

the decree was announced in a broadcast by President Rios following approval of the Chilean Senate by a vote of 30-to-10. This popular action to-

ward continental solidarity left Argentina, alone among Latin American countries, still having relations with the Axis powers.

### FOREIGN SERVICE OF THE UNITED STATES

BY MONNETT B. DAVIS

CHIEF, DIVISION OF FOREIGN SERVICE ADMINISTRATION, STATE DEPARTMENT

#### ADMINISTRATIVE REGULATIONS

The administrative regulations issued in pursuance of the Foreign Service Act of February 23, 1931, as amended, are to be found in Executive Order No. 8696 of April 18, 1940. These regulations implement the act by providing, among other things, for a Board of Foreign Service Personnel, a Board of Examiners and a Board of Foreign Service Officers' Training School.

#### BOARD OF FOREIGN SERVICE PERSONNEL

The duties of this Board are to examine into the character, ability, efficiency, experience, and general availability of all members of the Foreign Service with a view to promotions, transfers, and separations; to consider controversies or delinquencies among the Service personnel, and to recommend for promotion to the grade of minister those officers who have shown special capacity. The Board is composed of not more than three Assistant Secretaries of State, an officer of the Department of Commerce, and an officer of the Department of Agriculture. One of the Assistant Secretaries of State is the Assistant Secretary who has supervision over the Division of Foreign Service Personnel and is chairman of the Board. The members of the Departments of Commerce and Agriculture sit only when nominations and assignments of Commercial and Agricultural Attachés, the selection or assignment of Foreign Service officers for specialized training in commercial or agricultural work, or matters of interest to those Departments, are under consideration. The Chief of the

Division of Foreign Service Personnel and one other member of the Division may attend the meetings of the Board, but are not entitled to vote in its proceedings.

#### CLASSIFICATION, FOREIGN SERVICE 1942

	Salary	Number
Head of Missions		
Ambassadors.....	\$17,500	19
Ministers.....	10,000	25
Ministers.....	9,000	2
Minister Resident and Consul General (Baghdad).....	FSO*	1
American Commissioner to India.....	FSO*	1
		48
Foreign Service Officers		
Class 1.....	\$9,000-\$10,000	41
Class 2.....	8,000- 9,000	40
Class 3.....	7,000- 7,900	63
Class 4.....	6,000- 6,900	84
Class 5.....	5,000- 5,900	88
Class 6.....	4,500- 4,900	100
Class 7.....	4,000- 4,400	141
Class 8.....	3,500- 3,900	96
Unclassified (A)...	\$3,400	2
Unclassified (A)...	3,200	2
Unclassified (A)...	3,100	2
Unclassified (A)...	3,000	74
Unclassified (B)...	2,750	53
Unclassified (C)...	2,500	71
		857
Clerks—Senior		
Class 1.....	\$4,000	6
Class 2.....	3,750	4
Class 3.....	3,500	15
Class 4.....	3,250	43
Class 5.....	3,000	46
Clerks—Junior		
Class 1.....	2,750	77
Class 2.....	2,500	94
Class 3..All under	2,500	686
		971

\* Foreign Service Officer.



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### DIPLOMATIC PERSONNEL

#### AMBASSADORS

	Accredited by United States		Accredited to United States	
Argentina.....	Norman Armour	1939	Señor Don Felipe A. Espil	1931
Belgium.....	Anthony J. Drexel Biddle, Jr. <sup>1</sup>	1941	Count Robert van der Straten-Ponthoz	1935
Bolivia.....	Pierre de L. Boal	1942	Señor Dr. Don Luis Fernando Guachalla	1942
Brazil.....	Jefferson Caffery	1937	Carlos Martins	1939
Chile.....	Claude G. Bowers	1939	Señor Don Rodolfo Michels	1941
China.....	Clarence E. Gauss	1941	Dr. Wei Tao-ming	1942
Colombia.....	Arthur Bliss Lane	1942	Señor Don Alberto Vargas Nariño, Chargé d'Affaires ad interim	1942
Cuba.....	Spruille Braden	1940	Señor Dr. Aurelio F. Conchoso	1941
Ecuador.....	Boaz Long	1942	Señor Capitán Colón Eloy Alfaro	1936
Great Britain...	John G. Winant	1941	The Right Honorable the Viscount Halifax, K.G.	1941
Greece.....	Anthony J. Drexel Biddle, Jr. <sup>1</sup>	1942	Mr. Cimon P. Diamantopoulos	1942
Mexico.....	George S. Messersmith	1941	Señor Dr. Don Francisco Castillo Nájera	1935
Netherlands....	Anthony J. Drexel Biddle, Jr. <sup>1</sup>	1942	Dr. A. Loudon	1942
Norway.....	Anthony J. Drexel Biddle, Jr. <sup>1</sup>	1942	Mr. Wilhelm Munthe de Morgenstierne	1942
Panama.....	Edwin C. Wilson	1941	Señor Don Ernesto Jaén Guardia	1941
Paraguay.....	Wesley Frost	1941	Señor Dr. Don Celso R. Velázquez	1942
Peru.....	R. Henry Norweb	1940	Señor Don Manuel de Freyre y Santander	1930
Poland.....	Anthony J. Drexel Biddle, Jr. <sup>1</sup>	1937	Mr. Jan Ciechanowski	1941
Spain.....	Carlton J. H. Hayes	1942	Señor Don Juan Francisco de Cárdenas	1939
Turkey.....	Laurence A. Steinhardt	1942	Mr. Mehmet Munir Ertugun	1934
Union of Soviet-Socialist Republics.....	Admiral William H. Standley	1942	Mr. Maxim Litvinov	1941
Uruguay.....	William Dawson	1941	Dr. Juan Carlos Blanco	1941
Venezuela.....	Frank P. Corrigan	1939	Señor Dr. Don Diógenes Escalante	1939
Yugoslavia.....	Anthony J. Drexel Biddle, Jr. <sup>1</sup>	1942	Mr. Constantin Fotitch	1942

<sup>1</sup> Accredited to the Governments of Belgium, Poland, Norway, The Netherlands, Czechoslovakia, Yugoslavia, and Greece, established in England.

#### MINISTERS

	Accredited by United States		Accredited to United States	
Afghanistan....	Cornelius Van H. Engert	1942	Sir Owen Dixon, K.C.M.G.	1942
Australia.....	Nelson T. Johnson	1941	The Honorable Leighton McCarthy, K.C.	1941
Canada.....	Jay Pierrepont Moffat <sup>1</sup>	1940	Señor Dr. Don Luis Fernández	1940
Costa Rica....	Robert M. Scotten	1942	Mr. Vladimir Hurban	1936
Czechoslovakia	Anthony J. Drexel Biddle, Jr. <sup>2</sup>	1941	Mr. Henrik de Kauffmann	1939
Denmark <sup>4</sup> .....	Ray Atherton	—		
Dominican Republic.....	Avra M. Warren	1942	Señor Dr. J. M. Troncoso	1941
Egypt.....	Alexander C. Kirk <sup>3</sup>	1941	Mahmoud Hassan Bey	1938
El Salvador....	Walter Thurston	1942	Señor Dr. Don Hector David Castro	1934
Estonia <sup>4</sup> .....	—	—	Mr. Johannes Kaiv, Acting Consul General of Estonia in New York City in charge of Legation	1939
Finland.....	H. F. Arthur Schoenfeld	1937	Mr. Hjalmar J. Procopé	1939
Guatemala.....	Fay A. Des Portes	1936	Señor Dr. Don Adrian Recinos	1928

# FOREIGN SERVICE OF THE UNITED STATES

## DIPLOMATIC PERSONNEL

MINISTERS—Continued

	Accredited by United States		Accredited to United States	
Haiti.....	John Campbell White	1940	Mr. André Liautaud	1942
Honduras.....	John D. Erwin	1937	Señor Dr. Don Julian R. Caceres	1939
Iceland.....	Leland B. Morris	1942	Mr. Thor Thors	1941
Iran.....	Louis G. Dreyfus, Jr.	1939	Mr. Mohammed Shayesteh	1940
Iraq.....	Thomas M. Wilson (Minister Resident and Consul General)	1942	Mr. Ali Jawdat	1942
Ireland.....	David Gray	1940	Mr. Robert Brennan	1938
Latvia.....		—	Dr. Alfred Bilmanis	1935
Lebanon.....	George Wadsworth <sup>5</sup> (Diplomatic Agent and Consul General)	1942	—	—
Liberia.....	Lester A. Walton	1935	—	—
Lithuania.....		—	Mr. Povilas Zadeikis	1935
Luxembourg.....	Jay Pierrepoint Moffat <sup>6</sup>	1941	Mr. Hugues Le Gallais	1940
New Zealand.....	Patrick J. Hurley	1942	Mr. Walter Nash	1942
Nicaragua.....	James B. Stewart	1942	Señor Dr. Don León DeBayle	1937
Portugal.....	Bert Fish	1941	Dr. João Antonio de Bianchi	1933
Saudi Arabia.....	Alexander C. Kirk <sup>7</sup>	1941	—	—
Sweden.....	Herschel V. Johnson	1941	Mr. W. Bostrom	1926
Switzerland.....	Leland Harrison	1937	Mr. Charles Bruggmann	1939
Syria.....	George Wadsworth <sup>8</sup> (Diplomatic Agent and Consul General)	1942	—	—
Thailand <sup>4</sup> .....		—	Mom Rajawongse Seni Pramoj	1940
Union of South Africa.....	Lincoln MacVeagh	1942	Mr. Ralph William Close	1934

<sup>1</sup> Accredited also to Government of Luxembourg, established in Canada.

<sup>2</sup> Accredited also to Governments of Belgium, Poland, Norway, The Netherlands, Czechoslovakia, Yugoslavia and Greece, established in England.

<sup>3</sup> Accredited also to Saudi Arabia; resident at Cairo.

<sup>4</sup> Closed.

<sup>5</sup> Accredited also to Syria; resident at Beirut.

<sup>6</sup> Accredited also to Canada.

<sup>7</sup> Accredited also to Egypt.

<sup>8</sup> Accredited also to Lebanon; resident at Beirut.

### BOARD OF EXAMINERS

The duties of the Board are to hold examinations of applicants for admission to the Foreign Service. The examinations, both written and oral, are open only to Americans of good standing between the ages of 21 and 35, specially designated by the President for examination, who have been citizens of the United States for at least 15 years, who are physically, mentally, and temperamentally qualified for the proper performance of the duties of the Foreign Service, and who are not married to aliens. American clerks who have rendered satisfactory service in the Foreign Service for a period of five years immediately preceding the submission of their application for appointment as a Foreign Service officer may be exempted by the Board from written examinations and may be granted certain exceptions concerning age limitations.

The Board is composed of three Assistant Secretaries of State, an officer of the Department of Commerce, an officer of the Department of Agriculture, the Chief of the Division of Foreign Service Personnel of the Department of State, and the Chief Examiner of the Civil Service Commission.

### FOREIGN SERVICE OFFICERS' TRAINING SCHOOL

The school is maintained in the Department of State for the instruction of new appointees to the Foreign Service, and is under the direction of the Board of Foreign Service Officers' Training School. The duties of the Board are to act in all matters concerning the functions of the school, with the approval of the Secretary of State; to select the director of the School from among the officers of the Foreign Service with the ap-

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

proval of the Secretary of State, and in its discretion to select other instructors from among the qualified officers of the Department of State, the Foreign Service, the executive departments of the Government, and other available sources. The Board is composed of the members of the Board of Foreign Service Personnel, the Chief of the Division of Foreign Service Personnel, and the Director of the School.

### FOREIGN SERVICE EXAMINATION

Because of present war conditions it was found impracticable to hold a written examination during 1942 for appointments to the American Foreign Service. The Board of Examiners for the Foreign Service has not set the date of a later examination.

### CHANGES IN DIPLOMATIC AND CONSULAR PERSONNEL

As the occupation of territory by the Japanese military forces proceeded in 1942, the following consular offices were closed: Chefoo and Foochow in China, Medan in Sumatra, Batavia and Surabaya in Java, Singapore in the Straits Settlements, and Rangoon in Burma. Following the American invasion of North Africa and the disruption of diplomatic relations with the French Government

at Vichy, the American Embassy at Vichy and the consular offices at Lyon, Marseille, and Nice were closed.

In 1942, legations were established at Damascus, Syria; Jidda, Saudi Arabia; and Kabul, Afghanistan. Twenty new consular offices have been established in the Western Hemisphere, eight in Africa and the Near East, and one in Ireland.

In order to enable the Foreign Service to discharge its responsibilities in those phases of the war effort involving economic warfare, and political, economic, and cultural cooperation in the Western Hemisphere and among the United Nations, it has been necessary to augment it with the Foreign Service Auxiliary. As of Dec. 31, 1942, the Foreign Service Auxiliary consisted of 279 officers and 587 clerks and miscellaneous employees.

During 1942 there were three deaths, 15 retirements, and 17 resignations of Foreign Service Officers. On Dec. 31, 1942, the Service comprised 856 career officers.

### PROMOTIONS FROM THE RANKS

Of a total of 20 ambassadors and 27 ministers, 11 of the former and 19 of the latter have previously served in the ranks of the Foreign Service or of the Department of State.

## THE LEAGUE OF NATIONS AND ASSOCIATED AGENCIES

By ARTHUR SWEETSER

MEMBER OF THE LEAGUE OF NATIONS SECRETARIAT

### GENERAL

American relations with the three general international agencies which developed out of the First World War—League of Nations, Permanent Court of International Justice, and International Labor Organization—continued during America's first war-year of 1942 without any definite retrocession and perhaps with even a slight steadying. Those relations may conveniently be divided into two classifications, on the one hand, the or-

dinary current work which continued in so far as possible in war circumstances, and on the other, the general philosophical interplay which was appreciably stimulated by the intensifying discussion of post-war projects.

Actual points of contact between the United States and these agencies were greatly reduced in number by the inevitable reduction in the scope of cooperative international action, but wherever such action continued possible, American cooperation was

## THE LEAGUE OF NATIONS AND ASSOCIATED AGENCIES

as intimate as before the war, particularly as the identity of interest between those desiring peace and collaboration between nations became the more sharply outlined against the alternative method introduced by the Nazis.

### THE MONTREAL MEETING

The shift to the American side of the Atlantic of much of what remained of League activities, which had begun at the time of the fall of France, became more marked during 1942, particularly after the complete occupation of France and the virtual closing off of Geneva. The League's Supervisory Commission, which had been given full powers over League work for the emergency, was in part reconstituted and its 90th session was held at Montreal during August, its chairman, Carl J. Hambro of Norway, having taken permanent residence at Princeton. Two important international agencies were represented at the meeting by Americans associated in their work: the Permanent Court by Judge Manley O. Hudson and the Opium Central Board by Herbert L. May. Important budgetary and other decisions were taken to maintain existing League activities. (Report of the Supervisory Commission for the year 1942: League of Nations Document, Geneva).

### TECHNICAL WORK IN THE UNITED STATES

The two technical agencies of the League which had been largely transferred to the United States in 1940,—Economic, Financial, and Transit Department at Princeton and Anti-Narcotics group in Washington—stabilized and even intensified their work after the shocks of dislocation had been overcome. Both were cordially assisted by public and private American sources, maintained their personnel largely intact, and extended their work and contacts as far as possible in the circumstances.

### THE ECONOMIC GROUP AT PRINCETON

This group, established in Princeton on invitation of the Institute for

Advanced Study, Princeton University, and the Rockefeller Institute, brought together during the year what was in fact the first meeting of a regular official League agency thus far held in the United States. Members of the League's Economic and Financial Committees resident on the American side of the Atlantic met Aug. 7-8 following a similar meeting in London from April 27-May 1 of those resident in England. The chairmanship fell to an American citizen, Henry F. Grady, former Assistant Secretary of State who had been chairman of the Economic Committee in its last meetings in Geneva before the war; moreover, the Princeton meeting was attended by two other Americans, T. Jefferson Coolidge, former Assistant Secretary of the Treasury and member of the Financial Committee, and Prof. Lindsay Rogers, recently appointed Assistant Director of the International Labor Office, and the London session by W. W. Rieffler, long a member of the Financial Committee and the Committee on Depressions and more recently an official of the Board of Economic Warfare. The two sessions joined in producing a valuable analysis of the problems of world economic and financial cooperation based on the long experience and association of the members (League of Nations, Economic and Financial Committees, Report to the Council on the Work of the Joint Session, League Document, C.52.M52, 1942).

During the year also, the Princeton group continued their studies and analyses in this vital field and issued several new documents, notably "The Network of World Trade," "Commercial Policy in the Inter-War Period," and "Economic Fluctuations in the United States and the United Kingdom, 1918-1922," which constitute valuable additions to the literature on these complex problems. It continued the publication of its regular documents, *Statistical Year-Book*, *Monthly Bulletin of Statistics*, and the *World Economic Survey*, which have become standard volumes, and issued other documents on "Money



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and Banking," "War-Time Rationing and Consumption," "Prosperity and Depression" and the like. (These and other League documents may be obtained from the Columbia University Press, New York City, agents in the United States for League publications.)

This and other work made it possible to widen contacts with American authorities both public and private, as illustrated in official cooperation regarding the prevention of economic crises and depressions and in unofficial cooperation on problems of world population through the Office of Population Research at Princeton University. The work was also much aided by a further grant of \$50,000 from the Rockefeller Foundation for the promotion of research programmes related to problems of world economic and financial relations and organization. (Report of the Supervisory Commission).

### ANTI-NARCOTICS WORK IN WASHINGTON

Similarly, the Anti-Narcotics group, which had become established in Washington in cooperation with the American authorities, maintained as far as possible the service of international drug administration and supervision entrusted to it by various treaties. Relations with the American authorities continued close and cooperative, and advantage was taken of the opportunity to strengthen contacts with other governments in the Americas. The estimates of world drug requirements were assembled and published as usual, with more countries noted than in the previous year but with certain severe limitations due to censorship. Herbert L. May, one of the senior authorities in the anti-drug field, continued as chairman of the Opium Central Board and member of the Supervisory Committee, attending meetings in both London and Montreal on their behalf.

### OTHER AMERICAN COOPERATION

Further American cooperation was forthcoming for other League work.

Participation in the League's task of treaty registration, which had grown out of the reaction against secret treaties in the last war, was formalized in a State Department order of Aug. 6 providing that every international agreement entered into by the United States should be forwarded to the American Minister at Berne "for transmission by him to the Secretary-General of the League of Nations for registration by the Secretariat of the League and publication in the League of Nations Treaty Series." (State Department *Bulletin*, Aug. 8, 1942, page 692). Similarly the various statistical branches of the Government transmitted full data for the League's statistical agencies, and the Children's Bureau of the Labor Department furnished a detailed report on developments in child welfare in the United States, which was published in the League's Child Welfare Information Centre's annual volume (League of Nations: Child Welfare Information Center Annual Report, Geneva, 1942 Document C.15 M.15.1942.IV).

### THE WORLD COURT

This international tribunal continued to be neglected and unaided by the country which had so long and so strongly called for its creation. The only exception to this complete lack of support was that Judge Manley O. Hudson maintained the tradition of an American citizen serving as a judge of the Court which had been carried on successively by America's foremost international jurists, John Bassett Moore, Charles Evans Hughes, and Frank B. Kellogg. American spokesmen indeed seemed almost to lose sight of its existence, as when Secretary of State Cordell Hull, in his memorable address of July 23 said that "it is plain that one of the institutions which must be established and be given vitality is an international court of justice" ("The War and Human Freedom," Office of War Information) or when Vice-President Wallace, in his Woodrow Wilson speech of Dec. 28 said that "probably there will have to be an international court to make decisions in cases of

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dispute" (Press Release, Office of the Vice-President). As the report of the League's Supervisory Commission stated, however, "the Permanent Court of International Justice continues to hold itself available for the discharge of its judicial functions."

### ELEMENTS FOR THE FUTURE

The maintenance, in part on American soil, of these very different types of international agencies, whether in the economic and financial field, in the bitter struggle against the drug traffic, in the work of treaty registration and child welfare, and in many other ways offered considerable hopefulness for the future. They also afforded evidence illustrating the statement in the annual report of the League's Secretary-General, Sean Lester, who had valiantly maintained the League's central and certain other services in Geneva, to the effect that the League's technical agencies "are thus in being, ready at the appropriate minute to take their respective parts in the reconstruction of the world" (League of Nations, Report on the Work of the League, 1941-1942, submitted by the acting Secretary-General, May, 1942, Document C 35M35. 1942).

### EVOLUTION OF AMERICAN OPINION

More noteworthy in some ways than the continuance of these bits of cooperation in League work was the accentuation of interest and discussion as to the type of agency or system to be established after the war to prevent still another world conflict. Here there was a definite evolution, on the one hand in a more objective assessment of the past through the further recession of the 1920 bitternesses and, on the other, because of a sober planning for the future activated especially by the promulgation of the United Nations.

In the former connection perhaps the most outspoken assessment of the past by an American official was that of Under Secretary of State Sumner Welles in a Memorial Day address: "The people of the United

States were offered at the conclusion of the last war the realization of a great vision. They were offered the opportunity of sharing in the assumption of responsibility for the maintenance of peace in the world by participating in an international organization designed to prevent and to quell the outbreak of war. That opportunity they rejected. They rejected it in part because of the human tendency after a great upsurge of emotional idealism to seek the relapse into what was once termed 'normalcy.' They rejected it because of the false propaganda, widely spread, that by our participation in a world order we would incur the danger of war rather than avoid it. They rejected it because of unenlightened selfishness."

Subsequently Vice President Wallace, in a speech on Russia on Nov. 8, particularized further when he said: "Russia has had her bitter experience with isolationism. So also has the United States. In 1919 Republicans and Democrats alike sought through a League of Nations to express their belief in the collective security of that day. Taft, Hughes, Hoover, Lowden, and Root all wanted a League. Then isolationism came out of its cave and not only killed any possibility of our entering the League, but made it certain that we would adopt international policies which would make World War No. 2 almost inevitable. Both Russia and the United States retreated into isolationism to preserve their peace. Both failed. Both have learned their lesson."

On the unofficial side, Wendell Willkie on Nov. 17 gave the following explanation of the failure at the last peace settlement to fulfill President Wilson's high purpose as enunciated in the Fourteen Points and the proposal for the League of Nations: "When the time came to execute it in a peace treaty, a fatal flaw was discovered. We found that we and our allies were not really agreed upon that purpose. On the one hand some of our allies had entangled themselves in secret treaties; and they were more

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intent upon carrying out those treaties, and upon pursuing traditional power diplomacy, than upon opening the new vista that Mr. Wilson had sought to define. And, on the other hand, we ourselves were not as deeply dedicated to our declared purposes as we had led the world to believe. The net result was the abandonment of most of the purposes for which the war had supposedly been fought" (*The New York Times*, Nov. 17, 1942).

### PAN-AMERICAN OPINION

Another assessment from an unusual source appeared in an official document of the Pan-American Union which, in a report of the Inter-American Juridical Committee, said: "*The League of Nations*. The lesson of the World War was not lost upon a number of the leading statesmen of the Allied Powers. President Wilson, after proclaiming his 'Fourteen Points' of a just peace, sought to create a world-wide organization which would have as its primary function 'to promote international cooperation and to achieve international peace and security.' International law entered upon a new stage in which the entire body of states, organized in the League of Nations, was to assume responsibility for the maintenance of peace. But the United States, notwithstanding the fact that President Wilson had been chiefly responsible for the establishment of the League, refused to cooperate with it, with the result that from the beginning the League lacked the support of one of the members of the community whose cooperation was most necessary to its effective operation" (Report of the Inter-American Juridical Committee, Pan-American Union).

### VERDICT OF THE POLLS

Evidence accumulated during the year of a further evolution of sentiment on this issue. Americans had tried isolation and seen it lead to the Second World War. The tendency grew during the year to turn to the other method of cooperation and or-

ganization, especially as the United Nations theme took hold. All polls and popular consultations attested this, whether Gallup, University of Denver, or *Fortune*. The first named expressed the general view on July 4 when it said: "Isolationism, the doctrine of the nineteen-twenties and thirties, has given way to a great revival of interest in some kind of world league or concert of nations after the war" (*Washington Post*, July 5, 1942).

The details of this poll were as interesting as the conclusion. They showed that those favoring American participation in some kind of League had risen over a two-year period from 33 per cent in October 1937, to 50 per cent in July 1941, and to 73 per cent in July 1942. "The change has been most marked," it was added, "in the rank and file of the Republican party," the percentages on the three dates sampled standing at 23, 44, and 70, respectively.

The University of Denver consultation showed a 72 per cent majority favoring the United States joining "a union of nations that would try to solve world problems." The *Fortune* poll showed a similar, though less high result, while the State Legislatures in North Carolina and New Jersey adopted resolutions favoring a commonwealth of nations, and a popular referendum in Massachusetts gave a 4-to-1 majority for some kind of world federal union. Whether the November elections, with their Republican trend, meant any change in this evolution or were expressive of other feelings is unclear.

As 1942 closed, as the remnants of League work still possible in war conditions continued, on largely in the Western hemisphere, and as the curtain temporarily fell over Geneva through the occupation of all France, the basic conception of the League took on renewed life and vigor both throughout the world in official announcements referring to the next settlement and to the United Nations conception and throughout the great mass of the American people who had witnessed only too tragically the



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hopelessness of isolationism to protect it from the world's troubles.

### VICE PRESIDENT WALLACE ON THE FUTURE

On practically the closing date of the year, December 28th, anniversary of Woodrow Wilson's birthday, Vice President Wallace summarized the situation of the nations of the world, including the United States, and of agencies such as the League of Nations and the United Nations in the following graphic terms: "It is in this suddenly-shrunken world that the United Nations, like our 13 American States in 1787, soon will be

faced with a fundamental choice. We know now that the League of Nations, like our own union under the Articles of Confederation, was not strong enough. The League never had American support, and at critical moments it lacked the support of some of its own members. The League finally disintegrated under the successive blows of worldwide economic depression and a second World War. Soon the nations of the world will have to face this question: Shall the world's affairs be so organized as to prevent a repetition of these twin disasters—the bitter woe of depression and the holocaust of war?"

## INTERNATIONAL LABOR ORGANIZATION

By ETHEL M. JOHNSON

DIRECTOR, WASHINGTON OFFICE, INTERNATIONAL LABOR ORGANIZATION

### AMERICAN CONTACTS AND STUDIES

Establishment of the Working Center of the International Labor Office "for the duration" in Canada through the courtesy of the Canadian Government continued to facilitate contacts with member countries of the International Labor Organization in the Western Hemisphere and to increase the opportunities for technical assistance by the I.L.O. in the Americas. Many of the requests that have come to the Office since the Headquarters were transferred to this continent came from American countries, including the United States. The studies conducted since the transfer dealt with subjects of definite interest to the countries of this hemisphere such as those concerned with post-war reconstruction, with the development of methods of cooperation between representatives of governments, employers and workers; with wartime labor studies, and social security.

On Nov. 12, 1942 Costa Rica resumed active membership in the Organization. Endorsing the welcome given in 1941 by the New York Con-

ference to the Costa Rican observer's presence, the governing body unanimously decided that Costa Rica should be entitled to the full rights of membership of the I.L.O. subject to confirmation at the next conference.

In 1942 Mexico ratified two further International Labor treaties: that of 1938 concerning Statistics of Wages and Hours of Work, and that of 1936 concerning Holidays with Pay for Seamen, bringing the grand total of ratifications to 884.

### BRANCH AND CORRESPONDENT OFFICES

Although the headquarters of the I.L.O. were for the moment in Montreal (3480 University Street), the seat of the Organization remained in Geneva, Switzerland. A small staff was maintained there which has facilitated contacts with European countries and made possible securing of documentation from those countries. The Geneva Office together with the network of branch offices and national correspondents in different countries enabled the Organi-



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zation to keep closely in touch with changing social-economic conditions in various parts of the world and to provide for exchange of information and experience between member countries. In most instances the branch offices, as in the case of the Branch Office for the United States, in addition to supplying current information regarding the work of the Organization, served as distributing centers for the publications of the International Labor Office.

### **PERSONNEL OF THE INTERNATIONAL LABOR OFFICE**

United States representation on the governing body of the I.L.O. was provided by Carter Goodrich of Columbia University, chairman of the governing body; Henry I. Harriman, former president of the U. S. Chamber of Commerce, employer member, with Clarence G. McDavitt, former V. P. of the New England Telephone Company, as substitute employer member; and Robert J. Watt, international representative of the American Federation of Labor, as worker member. An American assistant director was appointed in 1942, Prof. Lindsay Rogers of the Department of Law and Government, Columbia University. A staff of approximately 100, including some 20 different nationalities was attached to the Working Center in Montreal under the acting director, Edward J. Phelan. In addition were the personnel of the Geneva Office and of the Branch Offices in Great Britain, India, China, and the United States, and the national correspondents and the representatives of the I.L.O. in various member countries.

### **THE INTERNATIONAL LABOR CONFERENCE**

The United States, which has been a member of the International Labor Organization since 1934, has regularly sent official delegations to its conferences and to the meetings of the governing body. The conference held in the United States in November 1941 was attended by delegates of all the major countries in the Western

Hemisphere, as well as by representatives of the United Nations and some neutral countries. Because of the war, no general conference was held in 1942, but a number of special meetings were held in which the United States and other countries of the Americas participated.

### **MEETING OF THE EMERGENCY COMMITTEE**

The Emergency Committee of the governing body met in London April 20, 1942 to discuss plans for implementing the so-called "American Resolution on Post-war Reconstruction" adopted at the 1941 conference. The United States was represented by Carter Goodrich, Clarence G. McDavitt, and Robert J. Watt. At this meeting, attended by representatives of 11 countries, it was agreed that an International Advisory Committee should be appointed to study what economic provisions should be included in the post-war settlement to permit implementation of the social objectives of the Atlantic Charter. It was also agreed that the Office should continue and intensify its studies on post-war reconstruction and should make new studies where needed. The opening session was addressed by Ernest Bevin, British Minister of Labor and National Service, and meetings were held with Sir Frederick Leith-Ross, chairman of the Inter-Allied Post-war Requirements Committee and with Alexander Loveday, director of the Economic, Financial and Transit Department of the League of Nations.

### **MEETING OF THE JOINT MARITIME COMMISSION**

The I.L.O. Joint Maritime Commission met in London in June, under the chairmanship of Sir Frederick Leggett of Great Britain. The delegation from the United States included representation from shipowners and from A.F.L. and C.I.O. seamen's organizations. The meeting primarily considered wartime problems of seamen's safety and welfare, on which important resolutions were adopted, and a number of resolutions looking

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to the future organization of the maritime industry were also passed.

### INTER-AMERICAN CONFERENCE ON SOCIAL SECURITY

The first Inter-American Conference on Social Security, organized with the assistance of the International Labor Office, met in Santiago, Chile at the invitation of the Chilean Government Sept. 10-16. It was attended by representatives of 21 American states and by a tripartite delegation from the governing body of the International Labor Organization. The United States sent an official delegation headed by Arthur J. Altmeyer, chairman of the Social Security Board. The representatives from the governing body of the International Labor Organization included two Americans—Clarence G. McDavitt from the employers' group and Robert J. Watt from the workers' group. One of the reports—that, by Mr. Altmeyer—was concerned with formulating a disability insurance program. A message of greeting from President Roosevelt as the sponsor of social security legislation in the United States was brought by Nelson Rockefeller, coordinator of Inter-American Affairs. The conference adopted the "Declaration of Santiago de Chile," defining the objectives of a social security program for the Americas. The Inter-American Conference on Social Security was set up as a permanent agency at this meeting to act in cooperation with the International Labor Office.

### CANADA-UNITED STATES TRIPARTITE MEETINGS

A series of Canada-United States Tripartite Meetings were held under the auspices of the International Labor Office in order to assist both Canada and the United States in the formulation of their labor supply policies and in the preparation of effective government-labor and management cooperation. Those in attendance at the meetings, held alternately in New York and Montreal, included the operating officials of

Canada and the United States directly concerned with the application of the labor supply and war production program, the employer and worker members of the advisory committees that have been set up in each country to deal with either general problems of labor supply or with particular phases of the subject, and the Canadian and United States members of the governing body of the I.L.O. The International Labor Office prepared the agenda and documentation for the meetings and, as a result of the discussions, published a series of articles in the *International Labor Review* and monographs in its *Studies and Reports* series dealing with labor supply and national defense and wartime transference of labor.

### RESEARCH AND PUBLICATIONS

The research and publications program of the Office during 1942 was directed to fulfilling both the wartime and post-war programs. The *International Labor Review*, published monthly in French, English, and Spanish, not only carried special articles on current economic and social developments throughout the world but gave particular attention to the growth of post-war reconstruction agencies and plans for post-war reconstruction in different countries. The *Industrial Safety Survey*, the *Legislative Series* and the *Cooperative Bulletin* were published regularly. The Office also published the *Yearbook of Labor Statistics*, the *Proceedings of the 1941 United States Conference*, and the *Minutes of the November 1941 Session of the Governing Body*. In addition, the Office issued several wartime labor studies and monographs dealing with post-war planning, including, a study of food control in Great Britain describing wartime procedures of rationing and food policy and indicating their possible application to the post-war period; a report on dietary surveys prepared for the Pan-American Sanitary Conference at Rio; documentation for the Inter-American Conference for Social Security;

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and a series of pamphlets dealing with the reconstruction program entitled "Towards Our True Inheritance, the Reconstruction Work of the I.L.O.;" "The I.L.O. and Plans for a People's Peace;" and "Approaches to Social Security."

### TECHNICAL ASSISTANCE TO MEMBER COUNTRIES

The work of the International Labor Organization in 1942 also comprised, as part of a closely integrated war and post-war program, technical assistance to its member countries. This included supplying aid upon request in the establishment of statistical services for several Latin American states and advising the governments of various countries with respect to their social security legislation, housing policy, and formulation of national reconstruction programs.

An expert from the International Labor Office was loaned to the Canadian Ministry of Labor and another to the United States Public Housing Authority, while others were sent on invitation from various government agencies in the United States such as the United States Department of Labor, Office of the Coordinator of Inter-American Affairs, and Board of Economic Warfare.

Through all of its activities, through its studies and publications, its meetings and conferences, the International Labor Organization directed its efforts in 1942 toward carrying out the mandate imposed in 1941 by the official delegates from 34 countries "to give authoritative expression to the social objectives confided to it, in the rebuilding of a peaceful world upon the basis of improved labor standards, economic advancement and social security."

## WAR CHRONOLOGY, 1942

(From *The New York Times*)

### JANUARY

- 2—Japanese take Manila while American and Philippine troops retire toward Bataan.
- Pact of the United Nations signed; twenty-six nations fighting the Axis powers pledge a common victory.
- 6—President Roosevelt calls for a vast arms program—185,000 planes, 120,000 tanks, 55,000 anti-aircraft guns, 18,000,000 tons of shipping—to be carried out in two years at a cost of more than half the annual national income.
- 11—Japanese invade the outer islands of the Netherlands East Indies, landing in Sarawak, on Borneo and at points on Celebes.
- 13—Donald M. Nelson becomes Chief of the new War Production Board established to speed the armament program.
- 14—U-boats begin operations along the American Atlantic Coast.
- 15—Opening of the inter-American conference at Rio de Janeiro, called to unite the New World against the Axis.
- 19—Japanese invade Burma from Thailand.
- 20—Russians recapture Mozhaisk, push the Germans farther back from Moscow.
- 21—In Africa Rommel launches a drive against the British from El Agheila and advances rapidly into Cyrenaica.
- 23—Japanese land on New Britain Australian mandated island northeast of New Guinea.
- 27—United States troops arrive in Northern Ireland; they were also reaching Australia and other undisclosed foreign ports.
- 30—President Roosevelt signs the Price Control Act, designed to prevent inflation; he criticizes its provision preventing control of farm prices below 110 per cent of parity.

## WAR CHRONOLOGY, 1942

- 31—Japanese complete conquest of Malay Peninsula; siege of Singapore begins.

### FEBRUARY

- 1—Washington discloses a naval raid on Japanese in the Marshall and Gilbert Islands.
- 2—Congress appropriates \$26,500,000,000 for the Navy, bringing total war costs since June, 1940, to \$116,000,000,000.
- 3—British Eighth Army halts the Nazi drive toward Egypt on line near Tobruk.
- 9—The former French liner *Normandie* under conversion to troop transport, is swept by fire and capsizes at its New York pier.
- 11—Washington announces the arrival of United States troops in Aruba, Netherlands West Indies.
- 12—German battleships *Scharnhorst* and *Gneisenau* and cruiser *Prinz Eugen* elude British warships in dash from Brest to home ports.
- 14—Japanese invade the oil fields of Sumatra.  
The third Selective Service registration of American manpower enrolls 9,000,000.
- 15—Singapore falls to the Japanese after a two-week siege.
- 16—U-boat shells oil refineries on Aruba, in the first Axis attack on the soil of the Western Hemisphere.
- 18—Former leaders of the French Republic, charged by the Pétain government with responsibility for French defeat in 1940, go on trial at Riom.
- 19—Sir Stafford Cripps becomes member of British Cabinet.
- 27—United Nations sea forces overwhelmed in the Battle of the Java Sea. Defeat opens way for enemy invasion of Java.

### MARCH

- 2—Congress makes record-breaking single appropriation of \$32,000,000,000 for war.
- 3—Secretary Morgenthau of the Treasury asks Congress to raise \$9,600,000,000 in new taxes. Brit-

ish bombers blast Parisian factories producing war material for the Reich.

- 8—Japanese occupy Rangoon in Burma after its partial destruction by the British. Other Niponese troops land at Lae and Salamaua, on the northeast coast of New Guinea.
- 9—Japanese overrun Java, richest of the Netherlands East Indies and last major bastion of the United Nations in the archipelago.
- 13—Japanese land in the Solomons, thrusting a spearhead toward the vital supply route to Australia.
- 15—In Berlin Hitler predicts a Nazi victory over Russia by summer.
- 17—General MacArthur reaches Australia from the Philippines and assumes command of United Nations forces in the Southwest Pacific.
- 19—WPB Chief Donald Nelson opposes move in Congress to abolish the forty-hour week and overtime pay, says it would hurt production.
- 25—Washington announces raids by naval task forces on Wake and Marcus Islands in the Western Pacific.  
Japanese occupy the Andaman Islands in the Bay of Bengal.
- 28—British Commandos raid U-boat base at St. Nazaire, Western France.

### APRIL

- 4—The United States recognizes the de Gaulle regime in French Equatorial Africa and the Cameroons.
- 8—WPB halts all nonessential building to conserve materials.
- 9—Bataan peninsula falls to the Japanese after a four-month siege; 3,000 defenders are evacuated to Corregidor, but more than 30,000 Americans and Filipinos are captured.
- 11—Sir Stafford Cripps, after three weeks of negotiations in New Delhi, announces that Indian leaders have rejected the British offer of post-war autonomy, with



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- right to secede from the empire. Gandhi and his followers had demanded immediate independence.
- 14—Marshal Pétain, under Nazi pressure, reinstates collaborationist Pierre Laval in the Vichy Cabinet.
  - 16—British step up tempo of bombing raids on targets in Germany and occupied France. Malta receives the George Cross for its heroism under Axis bombing.
  - 17—American bombers under Colonel Doolittle stage surprise raid on Tokyo, Yokohama and other Japanese cities.
  - 18—Paul V. McNutt is named head of the new Manpower Commission.
  - 25—Washington announces that United States troops have arrived in New Caledonia, French-controlled island on the flank of the supply route to Australia. Selective Service registration begins for men between 45 and 64 years.
  - 27—President Roosevelt calls for the adoption of a seven-point program to combat inflation. It embraces (1) heavier taxes, (2) ceilings on prices, (3) wage stabilization, (4) control of prices for agricultural products, (5) increased buying of war bonds, (6) rationing of scarce essential commodities, (7) less installment buying.
  - 28—Dimout of fifteen-mile wide strip along the Atlantic Coast begun by the Army because of sinkings by U-boats.
  - 29—Lashio, terminus of the Burma Road, China's supply life line, seized by the Japanese.
  - 6—Corregidor fortress surrenders to the Japanese.
  - 8—Battle of the Coral Sea. A Japanese invasion fleet is defeated by American naval and air forces in a five-day battle fought in waters between New Guinea and the Solomons.
  - 11—Nazis open their Spring offensive in the Crimea.
  - 14—Marshal Timoshenko launches a counter-drive on the Kharkov front.
  - 15—Gasoline rationing begins in seventeen Eastern States.
  - 18—Retail price ceilings imposed by the Office of Production Management on the basis of the maximum price levels of March.
  - 24—Russians withdraw from the Kerch peninsula in the Eastern Crimea, opening way for Nazi advance toward the Caucasus.
  - 26—The Wehrmacht launches massive drive north of the Sea of Azov; its objectives are Stalin-grad and the Caucasian oil fields. In London Prime Minister Churchill and Russian Foreign Minister Molotoff sign a twenty-year mutual aid pact between Great Britain and the U.S.S.R.
  - 27—The Africa Corps takes the offensive in Libya.
  - 30—Molotoff arrives secretly in Washington for conferences on the second front with President Roosevelt.
  - 31—One thousand British planes blast Cologne, drop 3,000 tons of bombs. Germans admit great destruction.

### JUNE

### MAY

- 4—British land in Madagascar, strategic island aflank Allied communications in the Indian Ocean.
- 5—Sugar rationing, necessitated by shipping shortage, begins. The Federal Reserve Board orders installment buying curbed.
- 1—Mexico declares war on the Axis powers as result of U-boat destruction of Mexican shipping.
- 3—Japanese planes bomb Dutch Harbor, United States naval base in the Eastern Aleutians.
- 4—Reinhard Heydrich, Gestapo official acting as "protector" of Bohemia and Moravia, dies in Prague from wounds inflicted by two Czech patriots eight days

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- earlier. His death is followed by Nazi terrorism.
- 7—The crucial three-day battle of Midway ends in a smashing Japanese defeat. A large enemy sea force attempting to occupy Midway and perhaps Hawaii is turned back with heavy loss.
  - 9—The United States and Great Britain pool all production and food resources for victory.
  - 12—Washington announces that Japanese invaders had occupied Attu and other islands in the Western Aleutians.
  - 15—The scrap rubber drive is launched.
  - 18—Prime Minister Churchill reaches Washington for a series of conferences with President Roosevelt.
  - 21—Tobruk falls to Marshal Rommel; Axis forces capture 25,000 British Imperials.
  - 25—Rommel crosses the Egyptian border in his drive for Alexandria.
  - 30—Congress votes record appropriation of \$42,000,000,000 for the Army.

## JULY

- 1—General Auchinleck's British Eighth Army stems Marshal Rommel's drive at El Alamein, 250 miles inside Egypt and seventy miles short of Alexandria. The British stand, between the Quattara Depression and the sea, marks the high tide of Nazi conquest in Africa.  
Washington reveals that during fiscal year just ended expenditures had been \$32,000,000,000 and receipts \$13,000,000,000, that expenditures now averaged \$150,000,000 a day. Manpower Commissioner McNutt states that 12,500,000 persons are employed in war work.
- 2—Sevastopol, last Russian outpost in the Crimea, falls to Nazis after an epic siege of 245 days.
- 4—American fliers in Britain celebrate Independence Day by striking first United States blow at Nazi-held Europe. They bomb

- objectives in Germany in collaboration with R. A. F.
- 6—President Castillo of Argentina reaffirms a policy of neutrality for his country.
  - 9—Chinese report major victory over Japanese in Kiangsi Province.
  - 14—On France's Bastille Day the Free French change their name to the Fighting French.
  - 16—The War Labor Board makes Little Steel award in Washington. This establishes the principle in wage stabilization of granting wage increases equivalent to the rise in living costs between Jan. 1, 1941, and May, 1942.
  - 20—The House passes record tax bill calling for \$24,000,000,000 in revenue. Treasury calls for \$3,000,000,000 more.
  - 22—New system of gasoline rationing based on ration cards goes into effect.  
Japanese land at Gona and Buna in New Guinea, begin drive on Allied base at Port Moresby.
  - 27—Russians evacuate Rostov as Nazis drive toward the Caucasus.

## AUGUST

- 3—Deliveries of fuel oil in the East stopped for twelve days as a first step toward rationing.
- 7—United States marines land in southern Solomons, seize Tulagi and vital new airfield on Guadalcanal from Japanese. The surprise stroke marks start of offensive strategy in the southwest Pacific.
- 8—Six of eight Nazi saboteurs landed from submarines in June are executed after trial in Washington.
- 9—The British arrest Gandhi and other leaders of the Indian independence movement after Gandhi's call for civil disobedience has resulted in widespread rioting.  
In night battle of Guadalcanal Japanese naval force sinks three American cruisers and one Aus-

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tralian. Allied control of southern Solomons hangs in balance, but enemy fails to press the advantage.

- 12—Prime Minister Churchill arrives in Moscow for four-day conference with Stalin, at which plans for second front were discussed.
- 17—United States marines stage hit-and-run raid on Makin Island in the Gilberts, destroy the Japanese garrison.
- 19—Allied Commando raid on Dieppe, led by Canadians, proves costly.
- 22—Brazil declares war on the Axis as result of sinkings by U-boats.
- 24—Nazi drive toward the Volga meets stiffened resistance as it nears Stalingrad. Long struggle for the city begins.
- 30—Australians wipe out a Japanese landing force at Milne Bay, on eastern tip of New Guinea.

### SEPTEMBER

- 2—Wendell Willkie arrives in Cairo en route to Russia, India and China.
- 6—British announce that Rommel's attempted break-through to the Nile Delta has definitely failed.
- 7—In a Labor Day address President Roosevelt asks Congress to bolster the anti-inflation program with new legislation to control farm prices and increase taxation. He promises to follow with executive action to curb wages. He sets a deadline, Oct. 1, declaring that if Congress doesn't act by that time, he will.
- 10—The Baruch-Compton-Conant report on the rubber emergency declares: "We find the existing situation to be so dangerous that unless corrective measures are taken immediately this country will face both a military and civilian collapse." Japanese push through gap at the high point of the Owen Stanley range and threaten Port Moresby 44 miles away.
- 14—Vichy establishes compulsory labor for men between 18 and 65,

unmarried women between 20 and 35. Seen as a move to get forced labor for Hitler this is called the most drastic decree issued by Vichy since the beginning of collaboration.

- United States Army bombers raid Kiska in first major air foray since the Japanese established themselves on the island in June.
- 15—William M. Jeffers put in charge of the nation's rubber program.
- 17—On the twenty-sixth day of the battle for Stalingrad the Russians announce that the Nazis have penetrated the city.
- 23—Willkie confers with Stalin at the Kremlin, later calls for a second front "at the earliest possible moment."
- British occupy Tananarive, capital of Madagascar.
- 25—Jeffers orders gasoline rationing for the entire country as a means to conserve tires.
- 26—Japanese begin to retreat in New Guinea.

### OCTOBER

- 2—President signs the anti-inflation bill. Willkie arrives at Chungking.
- 3—Associate Justice James F. Byrnes of the Supreme Court appointed Director of Economic Stabilization.
- 7—John L. Lewis withdraws his United Mine Workers from the C. I. O.
- 8—Germany says she will shackle 1,400 British prisoners of war.
- 9—State Department announces that the United States and Britain will abandon extraterritoriality in China.
- 12—Attorney General Biddle announces that 600,000 unnaturalized Italians in the United States will no longer be classed as enemy aliens.
- 14—Willkie reports to the President after his 31,000-mile trip around the world.
- 21—President Roosevelt signs the \$9,000,000,000 tax bill, largest in the nation's history.

## WAR CHRONOLOGY, 1942

- 25—Vice Admiral William F. Halsey Jr. succeeds Vice Admiral Robert L. Ghormley as Allied commander in the South Pacific.
- 26—A major air, land and sea attack opens in the Solomons. Four days later Secretary Knox announces that the United States has won the "first round" of the battle. The Japanese fleet withdraws.  
Willkie calls for a second front and a "Pacific Charter," says that weaker nations want specific guarantees from the United States and Britain as to their freedom and security in the post-war world.  
OPA announces coffee rationing for the nation.
- 27—Economic Director James F. Byrnes issues order to limit salaries to \$25,000 a year.

### NOVEMBER

- 2—Marshall Rommel's Africa Corps, entrenched at the gates of the rich Nile Valley since July, breaks and flees before the hammer blows of General Montgomery's Eighth Army.
- 3—The Republicans chalk up impressive victories in the mid-term elections, threatening the administration's control of Congress.
- 8—United States forces land in French North Africa; in a seventy-six-hour campaign, ended by an armistice arranged by Admiral Jean François Darlan, they take control of Algeria and Morocco, strategic areas in the struggle for control of the Mediterranean and South Atlantic.
- 11—On the anniversary of the end of the First World War the Germans, in retaliation for the American landings in French North Africa, take possession of all France except a thirty-mile semicircle around Toulon, where the greater part of the French fleet lay at anchor.
- 12—A three-day naval battle, greatest since the First World War, starts in the Solomons. It ends

- in an American victory and is described by Secretary of the Navy Knox as Round 2 of the campaign.
- 13—President Roosevelt signs an amendment to the draft act allowing the induction of 18 and 19 year olds, a measure that had met with strong opposition.
- 15—Allied forces race into Tunisia for a showdown battle with the Axis for control of the south shore of the Mediterranean.
- 17—President Roosevelt, taking cognizance of widespread opposition to Admiral Darlan, one-time collaborationist, as head of the civil government in American-occupied French North Africa, issues a statement promising that the French alone would determine their form of post-war government.
- 19—The Russians open their Winter offensives, attacks developing around Rzhev in the North and Stalingrad in the south.
- 23—Allies take Gona in Northern New Guinea and threaten the entire Japanese position in the area.
- 27—Greater part of the French fleet, reckoned the fourth strongest in the world at the beginning of the war, is scuttled by its crews at Toulon to balk attempt by Germans to seize it.
- 29—Prime Minister Churchill warns Italy that the scientific bombings of her cities will continue until she abandons the war.
- 30—Two-day naval battle starts in the Solomons; Secretary of the Navy Knox calls the American victory the successful ending of Round 3. This battle and the one that took place earlier in the month open the way to more intensive air action by the American fliers.

### DECEMBER

- 1—Admiral Darlan assumes authority as Chief of State in French Africa.  
Beveridge plan for social security



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

- in post-war Britain given to the House of Commons.  
Gas rationing goes into effect for the whole United States.
- 4—President Roosevelt abolishes the WPA.
- 5—Paul V. McNutt appointed manpower dictator of the nation.
- 6—Secretary of Agriculture Claude R. Wickard named Food Administrator.
- 8—WPB announces change to production for offense.
- 10—Allies announce occupation of Gona on New Guinea.
- 11—President tells Congress American overseas forces will total 1,000,000 men by end of the month.
- 13—British Eighth Army penetrates Rommel's position at El Agheila.
- 14—American troops capture Buna village on New Guinea.
- 16—Russians launch another major offensive in the Don region.  
Ex-President Hoover proposes that peace arrangements after war be divided into two stages: immediate "conditional peace" to be followed by "cooling-off" period.
- Seventy-seventh Congress adjourns after the longest session in the nation's history.
- 17—Army and Navy announce plan to take over 200 to 300 colleges and universities as training grounds for men in the armed forces.  
Leon Henderson resigns as Price Administrator after long and futile struggle with Congress to get sufficient funds for the OPA.  
United Nations issue joint condemnation of the Nazi policy of "cold-blooded extermination" of the Jews.
- 24—Admiral Darlan assassinated in Algiers.
- 26—Gen. Henri Honoré Giraud appointed to succeed Darlan as Chief of State in French North Africa.

## PERIODICAL PUBLICATIONS

- |  |                                       |
|--|---------------------------------------|
| <i>American Journal of International Law</i> | <i>Living Age</i>                     |
| 700 Jackson Place N.W., Washington, D. C.    | 420 Madison Ave., New York City.      |
| <i>Current History</i>                       | <i>Pacific Affairs</i>                |
| 225 Varick Street, New York City.            | 129 East 52nd Street, New York City.  |
| <i>Foreign Affairs</i>                       | <i>Pan-American Union Bulletin</i>    |
| 45 East 65th Street, New York City.          | Pan-American Union, Washington, D. C. |
| <i>Foreign Policy Bulletin</i>               | <i>Time Weekly Newsmagazine (The)</i> |
| 22 East 38th Street, New York City.          | 9 Rockefeller Plaza, New York City.   |
| <i>Foreign Policy Reports</i>                | <i>United States Bulletin</i>         |
| 22 East 38th Street, New York City.          | State Department, Washington, D. C.   |
| <i>International Conciliation</i>            | <i>World Affairs</i>                  |
| 405 West 117th Street, New York City.        | 734 Jackson Place, Washington, D. C.  |

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

#### GENERAL

ACADEMY OF POLITICAL SCIENCE, Fayerweather Hall, Columbia University, New York City.

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN ARBITRATION ASSOCIATION, 9 Rockefeller Plaza, New York City.

AMERICAN PEACE SOCIETY, 734 Jackson Place, Washington, D. C.

AMERICAN POLITICAL SCIENCE ASSOCIATION, 105 Harris Hall, Northwestern University, Evanston, Ill.

AMERICAN SOCIETY OF INTERNATIONAL LAW, 700 Jackson Place, N.W., Washington, D. C.

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, 700 Jackson Place, N.W., Washington, D. C.

COUNCIL OF FOREIGN RELATIONS, INC., 45 East 65th Street, New York City.

FOREIGN POLICY ASSN., 22 East 38th Street, New York City.

INTERNATIONAL REFORM FEDERATION, 134 B St., N.E., Washington, D. C.

LEAGUE OF NATIONS ASSN., INC., 8 West 40th St., New York City.

NATIONAL COUNCIL FOR PREVENTION OF WAR, 532 17th St., N.W., Washington, D. C.

PEOPLE'S LOBBY, INC., 1410 H Street, N.W., Washington, D. C.

WOMEN'S INTERNATIONAL LEAGUE FOR PEACE AND FREEDOM, U. S. SECTION, 1734 F Street, N.W., Washington, D. C.

WOMEN'S PEACE UNION, 2 Stone St., New York City.

WORLD PEACE FOUNDATION, 40 Mount Vernon St., Boston, Mass.

#### REGIONAL

AMERICAN ASIATIC ASSN., 1 Hanover Square, New York City.

CHINA SOCIETY OF AMERICA, 570 Lexington Ave., New York City.

COMMITTEE ON COOPERATION IN LATIN AMERICA, 156 Fifth Ave., New York City.

ENGLISH-SPEAKING UNION, 30 Rockefeller Plaza, New York City.

FAR EAST CONFERENCE, 11 Broadway, New York City.

FRENCH INSTITUTE IN THE UNITED STATES, 22 East 60th St., New York City.

NETHERLAND-AMERICA FOUNDATION INC., 10 Rockefeller Plaza, New York City.

PAN-AMERICA SOCIETY, INC., 67 Broad St., New York City.

PAN-PACIFIC UNION, INC., 1023 Alakea St., Honolulu, Hawaii.

# PART TWO

## AMERICAN GOVERNMENT

### DIVISION III

### THE NATIONAL GOVERNMENT

#### FEDERAL ADMINISTRATIVE ORGANIZATION

BY WILLIAM M. SCHUYLER  
EDITOR, *The American Year Book*

#### THE PRESIDENT AND VICE-PRESIDENT

**President.**—Franklin Delano Roosevelt of New York (Democrat). Sworn into office as President of the United States, March 4, 1933, in succession to Herbert Hoover, and inaugurated for third term Jan. 20, 1941.

**Vice President.**—Henry Agard Wallace of Iowa (Democrat), inaugurated Vice President of the United States Jan. 20, 1941.

#### Executive Office of the President.—

White House Office—Marvin Hunter McIntyre (Kentucky), Stephen Early (Virginia), Brigadier General Edwin Martin Watson (Alabama), Secretaries; Marguerite A. Le Hand, Personal Secretary to the President.

Special Assistant to the President.—Harry L. Hopkins.

Bureau of the Budget—Harold D. Smith, Director.

Office for Emergency Management—Wayne Coy, Liaison Officer.

Board of War Communications—James Lawrence Fly, Chairman.

National War Labor Board—William H. Davis, Chairman.

Office of Alien Property Custodian—Leo T. Crowley, Custodian.

Office of Civilian Defense—James M. Landis, Director.

Office of Defense Health and Welfare Services—Paul V. McNutt, Director.

Office of Coordinator of Inter-American Affairs—Nelson A. Rockefeller, Coordinator.

Office of Defense Transportation—Joseph B. Eastman, Director.

Office of Economic Stabilization—James F. Byrnes, Director.

Office of Lend-Lease Administration—E. R. Stettinius, Jr., Administrator.

Office of War Information—Elmer Davis, Director.

President's Committee on Fair Employment Practices—Dr. Malcolm MacLean, Chairman.

War Manpower Commission—Paul V. McNutt, Chairman.

Office of Price Administration—Prentiss M. Brown, Administrator.

National Resources Planning Board—Frederic A. Delano, Chairman.

National Youth Administration—Aubrey Williams, Administrator.

Selective Service System—Maj. Gen. Lewis B. Hershey, Director.

War Production Board—Donald M. Nelson, Chairman.

War Relocation Authority—Dillon S. Myer, Director.

War Shipping Administration—Rear Admiral Emory S. Land, Administrator.

Board of Economic Warfare—The Vice President, Chairman.

Office of Scientific Work and Development—Dr. Vannevar Bush, Director.

## FEDERAL ADMINISTRATIVE ORGANIZATION

Office of Censorship—Byron Price, Director.

President's War Relief Control Board—Joseph E. Davies, Chairman.

Joint Economic Committees—U. S. and Canada—Alvin H. Hansen, Chairman.

Material Coordinating Committee U. S. and Canada—W. L. Batt and H. C. Sykes.

Joint War Production Committee—U. S. and Canada—J. S. Knowlson, Chairman.

Liaison Office for Personnel Management—William H. McReynolds, Liaison Officer.

**Presidential Vacancy.**—By Act of Congress, in the case of vacancy occurring in the office of President through the death or removal of both the President and Vice President, the Cabinet Officers succeed to the Presidency in the order indicated in the arrangement of the following summary of the executive departments:

### DEPARTMENT OF STATE

**Secretary of State.**—Cordell Hull.

**Under Secretary of State.**—Sumner Welles.

**Assistant Secretaries of State.**—Adolf A. Berle, Jr., Breckinridge Long, Dean G. Acheson, G. Howland Shaw.

**Foreign Service Personnel Board.**—G. Howland Shaw, Chairman.

**Legal Adviser.**—Green H. Hackworth.

**Economic Adviser.**—Herbert Feis.

**Advisers on Political Relations.**—James C. Dunn, Stanley K. Hornbeck, Laurence Duggan.

**Assistant to the Secretary of State.**—Cecil W. Gray.

**Chiefs of Divisions.**—

Far Eastern Affairs—Maxwell M. Hamilton.

American Republics—Philip W. Bonsal (Acting).

European Affairs—Ray Atherton (Acting).

Near Eastern Affairs—Paul H. Alling.

Passport—Ruth B. Shipley.

Current Information—Michael J. McDermott.

Foreign Service Administration—Monnett B. Davis, Chief.

Foreign Service Personnel—John G. Erhardt, Chief.

Protocol—George T. Summerlin.

Foreign Activity Correlation—George A. Gordon, Acting Chief.

International Communications—Thomas Burke.

Foreign Funds Control—Donald Hiss, Chief.

International Conferences—Warren H. Kelchner.

Treaty—Charles M. Barnes.

Research and Publication—E. Wilder Spaulding.

Commercial Affairs—Raymond H. Geist, Chief.

Commercial Policy and Agreements—Harry C. Hawkins.

Defense Materials—Thomas K. Finletter, Acting Chief.

Visa—Howard K. Travers, Chief.

Communications and Records—David A. Salmon.

World Trade Intelligence—John S. Dickey, Acting Chief.

Cultural Relations—Charles A. Thomson.

Financial — Frederick Livesey, Chief.

Accounts—Donald W. Corrick.

Special—Joseph C. Green, Chief.

Special Research—Leo Pasvolsky, Chief.

**Chiefs of Offices.**—

Central Translating—Guillermo A. Suro, Chief.

Editor of Treaties—Hunter Miller.

Co-ordination and Review — Blanche Rule Halla.

Fiscal and Budget Affairs—Ella A. Logsdon.

Foreign Service Buildings—Frederick Larkin.

Foreign Service Officers' Training School—Robert B. Macatee, Acting Director.

Caribbean—Coert duBois, Chief.

Philippine Affairs—Frank P. Lockhart, Chief.

**Committee for Reciprocity Information.**—Lynn R. Edminster, Chairman.

**National Munitions Control Board.**—Secretary of State, Chairman.



### III. THE NATIONAL GOVERNMENT

#### DEPARTMENT OF THE TREASURY

**Secretary of the Treasury.**—Henry Morgenthau, Jr.

Charged with the management of the national finances; prepares plans for the improvement of the revenue and support of the public credit; superintends collection of the moneys paid from and into the Treasury; controls construction of public buildings, coinage and printing of money, and the administration of the Coast Guard and the Public Health Service; *ex-officio* chairman of the Federal Reserve Board.

**Under Secretary of the Treasury.**—Daniel W. Bell.

**Assistant Secretary.**—John L. Sullivan.

**Assistant Secretary in Charge of Customs, Narcotics, and Secret Service.**—Herbert E. Gaston.

**Director of Personnel.**—Theodore F. Wilson.

**Director of Public Relations.**—Charles Schwartz.

**Assistants to the Secretary.**—Harold N. Graves, Harry D. White, John W. Pehle, Ferdinand Kuhn, Jr., George Buffington, Theodore R. Gamble, Peter H. Odegard.

**Administrative Assistant to the Secretary.**—W. N. Thompson.

**Technical Assistants to the Secretary.**—Charles S. Bell, Charles R. Schoeneman.

**Chief Clerk.**—F. A. Birgfeld.

**Commissioner of the Public Debt Service.**—William S. Broughton.

**Commissioner of Accounts.**—E. F. Bartelt.

**General Counsel.**—Randolph E. Paul.

**Chiefs of Divisions.**—

Monetary Research—Harry D. White.

Tax Research—Roy Blough.

Research and Statistics—George C. Haas.

Secret Service—Frank J. Wilson.

Procurement—Clifton E. Mack.

Chief Disbursing Officer—Guy F. Allen.

**Comptroller of the Currency.**—Preston Delano.

Has supervision of the national

banks, their examination and reports; preparation and issue of national bank circulation; redemption and destruction of national bank notes. *Ex-officio* member of the Federal Reserve Board.

**Treasurer of the United States.**—William A. Julian.

Charged with the receipts and disbursement of all public moneys deposited in the Treasury and Sub-Treasuries and in national banks depositories.

**War Savings Staff.**—Eugene W. Sloan, Executive Director.

**Commissioner of the Bureau of Customs.**—W. R. Johnson.

**Commissioner of the Bureau of Internal Revenue.**—Guy T. Helvering.

Charged with general supervision of the collection of all internal revenue taxes, including the income tax, and the enforcement of internal revenue laws.

**Director of the Bureau of the Mint.**—Nellie Tayloe Ross.

Has general supervision of the mints and assay offices.

**Commissioner of Narcotics.**—H. J. Anslinger.

**Director of the Bureau of Engraving and Printing.**—Alvin W. Hall.

Produces all the securities and similar work of the Government printed from steel plates.

**Custom House.**—Franklin A. M. Shafer, Deputy Collector in Charge.

**Committee on Practice.**—G. C. Hanna, Chairman.

#### DEPARTMENT OF WAR

**Secretary of War.**—Henry L. Stimson.

**Under Secretary of War.**—Robert P. Patterson.

**Assistant Secretary of War.**—John J. McCloy.

**Assistant Secretary of War for Air.**—Robert A. Lovett.

**Administrative Assistant and Chief Clerk.**—John W. Martyn.

**Special Assistants to the Secretary of War.**—Julius H. Amberg, Harry H. Bundy, and Goldthwaite H. Dorr.

## FEDERAL ADMINISTRATIVE ORGANIZATION

### Clerk to the Secretary of War.—

John W. Schott.

### War Department General Staff.—

General George C. Marshall, Chief of Staff; Lieut. Gen. Joseph T. McNarney, Deputy Chief of Staff.

**Commanding General, Army Ground Forces.**—Lieut. Gen. Leslie J. McNair.

**Chief of Chaplains.**—William R. Arnold.

**The Adjutant General.**—Major General James A. Ulio.

**The Inspector General.**—Major General Virgil L. Peterson.

**The Judge Advocate General.**—Major General Myron C. Cramer.

**The Quartermaster General.**—Major General Edmund B. Gregory.

**Chief of Finance.**—Major General H. K. Loughry.

**Surgeon General.**—Major General James C. Magee.

**Chief of Engineers.**—Major General Eugene Reybold.

**Chief of Ordnance.**—Major General L. H. Campbell.

**Chief Signal Officer.**—Major General Dawson Olmstead.

**Commanding General, Army Air Forces.**—Lieut. General H. H. Arnold.

**Commanding General, Services of Supply.**—Lieut. Gen. Brehon B. Somervell.

**Chief of the National Guard Bureau.**—Major General John F. Williams.

**Chief of the Chemical Warfare Service.**—Major General William N. Porter.

**Provost Marshal General.**—Major General Allen W. Gullion.

**The Army War College.**—Colonel T. F. Bresnahan, Acting Commandant.

**Women's Army Auxiliary Corps.**—Oveta Culp Hobby, Director.

## DEPARTMENT OF JUSTICE

**Attorney General.**—Francis Biddle. Represents the United States in all legal matters.

**Solicitor General.**—Charles Fahy.

**Assistant to the Attorney General.**—James H. Rowe.

### Assistant Attorneys General.—

Thurman W. Arnold, Samuel O. Clark, Francis M. Shea, Norman M. Littell, Wendell Berge.

**Assistant Attorney General, Division of Customs.**—Paul P. Rao.

**Immigration and Naturalization Service.**—Earl G. Harrison, Commissioner.

**Director of the Bureau of Investigation.**—J. Edgar Hoover.

**Director of the Bureau of Prisons.**—James V. Bennett.

**Director of the Bureau of War Risk Litigation.**—Lester P. Schoene.

**War Division.**—Charles Fahy, Director.

**Federal Prison Industries, Inc.**—Sanford Bates, President.

**Executive Assistant to the Attorney General.**—Ugo Carusi.

**Administrative Assistant.**—Thomas D. Quinn.

**General Agent.**—E. R. Butts.

**Chief Clerk.**—Harvey C. Donaldson.

**Appointment Clerk.**—Nellie G. Plumley.

**Chief of the Division of Records.**—Armando di Girolamo.

**Chief of the Division of Supplies and Printing.**—John W. Adler.

**Librarian.**—Matthew A. McKavitt.

**Pardon Attorney.**—Daniel M. Lyons.

**Board of Parole.**—Arthur D. Wood, T. Webber Wilson, Edward P. Reidy.

## POST OFFICE DEPARTMENT

**Postmaster General.**—Frank C. Walker.

**Executive Assistant to the Postmaster General.**—William F. Cronin.

**Special Assistants to the Postmaster General.**—Forest J. Hall and William J. Bray.

**First Assistant Postmaster General.**—Ambrose O'Connell.

**Second Assistant Postmaster General.**—Smith W. Purdum.

**Third Assistant Postmaster General.**—Ramsey S. Black.

**Fourth Assistant Postmaster General.**—Walter Myers.

**Director of Parcel Post.**—John A. Brennan.

**Solicitor.**—Vincent M. Miles.

EMERGENCY

THE

SELECTIVE SERVICE  
SYSTEM

NATIONAL  
HOUSING AGENCY

JOINT BOARDS AND COMMITTEES

UNITED STATES AND CANADA:

Joint Economic Committees  
Joint War Production Committee  
Materials Coordinating Committee  
Permanent Joint Board on Defense

UNITED STATES AND GREAT BRITAIN:

Combined Chiefs of Staff  
Munitions Assignments Board  
Combined Food Board  
Combined Production and Resources Board  
Combined Raw Materials Board  
Combined Shipping Adjustment Board

INTER-AMERICAN DEFENSE BOARD  
JOINT MEXICAN-U. S. DEFENSE COMMISSION  
PACIFIC WAR COUNCIL

\*OFFICE OF  
CENSORSHIP

FEDERAL WORKS AGENCY:  
War Public Works  
Program

DEPARTMENT OF COMMERCE:  
RECONSTRUCTION FINANCE CORPORATION:

Defense Plant Corporation  
Defense Supplies Corporation  
Metals Reserve Company  
Rubber Reserve Company  
War Damage Corporation

\*For purposes of administration, these agencies are commonly treated as agencies within the Executive Office of the President.

PRESIDENT  
CONTR

# WAR AGENCIES

## PRESIDENT

\* BOARD OF  
ECONOMIC WARFARE

EXECUTIVE OFFICE OF  
THE PRESIDENT

\* OFFICE OF  
PRICE ADMINISTRATION

### OFFICE FOR EMERGENCY MANAGEMENT

Board of War Communications  
National War Labor Board  
Office of Alien Property Custodian  
Office of Civilian Defense  
Office of Coordinator of Inter-American  
Affairs  
Office of Defense Health and Welfare  
Services  
Office of Defense Transportation  
Office of Lend-Lease Administration  
Office of Scientific Research and  
Development  
Office of War Information  
War Manpower Commission  
War Production Board  
War Relocation Authority  
War Shipping Administration

DEPARTMENT OF AGRICULTURE:  
Office for  
Agricultural War Relations

### DEPARTMENT OF THE INTERIOR:

Office of Fishery Coordination  
Office of Petroleum Coordinator  
for War  
Office of Solid Fuels Coordinator  
for War

Compiled August 1942, by the Bureau of Public Inquiries of the Office of War Information. For further information see the United States Government Manual, for sale by the Superintendent of Documents, Washington, D. C., or write the Bureau of Public Inquiries, 1400 Pennsylvania Avenue, Washington, D. C.

WAR RELIEF  
BOARD



### III. THE NATIONAL GOVERNMENT

**Chief Post Office Inspector.**—Kildroy P. Aldrich.

**Superintendent of Air Mail Service.**—Roy M. Martin.

**Bureau of Accounts.**—Comptroller (vacant).

#### DEPARTMENT OF THE NAVY

**Secretary of the Navy.**—Frank Knox.

**Under Secretary of the Navy.**—James V. Forrestal.

**Assistant Secretary of the Navy.**—Ralph A. Bard.

**Assistant Secretary of the Navy for Air.**—Artemus L. Gates.

**Special Assistants to the Secretary of the Navy.**—Adlai E. Stevenson, Joseph W. Powell, William C. Bullitt, Dr. Joseph W. Barker, and Frank E. Mason.

**Budget Officer.**—Rear Admiral Ezra G. Allen.

**Director of Shore Establishments.**—Rear Admiral C. W. Fisher.

**Commander in Chief, United States Fleet, and Chief of Naval Operations.**—Admiral Ernest J. King.

**Coast Guard.**—Rear Admiral Russell R. Waesche, Commandant.

**Chief of Naval Personnel.**—Rear Admiral Randall Jacobs.

**Chief of the Bureau of Yards and Docks.**—Rear Admiral Ben Moreell.

**Chief of the Bureau of Ordnance.**—Rear Admiral W. H. P. Blandy.

**Chief of the Bureau of Ships.**—Rear Admiral Edward L. Cochrane.

**Chief of the Bureau of Supplies and Accounts.**—Rear Admiral W. B. Young, Paymaster General of the Navy.

**Chief of the Bureau of Medicine and Surgery.**—Rear Admiral Ross T. McIntire, Surgeon General.

**Chief of the Bureau of Aeronautics.**—Rear Admiral John S. McCain.

**Judge Advocate General.**—Rear Admiral W. B. Woodson.

**Naval Consulting Board.**—Thomas Robins, Secretary.

**Compensation Board.**—Captain E. G. Kintner, Senior Member.

**General Board.**—Admiral A. J. Hepburn, Chairman.

**Interior Control Board.**—Captain

Vance D. Chapline, Senior Member.

**President of the Board of Medical Examiners.**—Rear Admiral Benjamin H. Dorsey.

**President of the Naval Examining Board.**—Rear Admiral David McD. LeBreton.

**President of the Naval Retiring Board.**—Rear Admiral Benjamin H. Dorsey.

**Naval Dispensary.**—Captain Richard A. Warner, Medical Corps.

**Navy Yard and Station, Washington, D. C.**—Rear Admiral F. L. Reichmuth, Commandant.

**Naval Research Laboratory.**—Rear Admiral A. H. Van Keuren, Director.

**Naval Air Station.**—Commander W. B. Saunders.

**Naval Medical Center.**—Rear Admiral C. W. O. Bunker, commanding officer.

**Naval Medical School.**—Captain Paul Wilson.

**Naval Dental School.**—Captain Arthur H. Yando, commanding officer.

**Naval Hospital.**—Captain John Harper.

**Naval Medical Research Institute.**—Captain W. L. Mann, Jr., commanding officer.

**President of the Board for Examination of Medical Officers.**—Captain Paul Wilson.

**President of the Board of Examination of Dental Officers.**—Captain Paul Wilson.

**Headquarters Marine Corps.**—Lieut. General Thomas Holcomb, Commandant.

**Naval Examining Board (Marine Corps).**—Brig. Gen. Walter N. Hill, President.

**Marine Barracks.**—Colonel John Potts, commanding.

#### DEPARTMENT OF THE INTERIOR

**Secretary of the Interior.**—Harold L. Ickes.

Charged with pensions, public lands, Indian Affairs, geological surveys, reclamation of arid lands, and mines.

**Under Secretary.**—Abe Fortas.

## FEDERAL ADMINISTRATIVE ORGANIZATION

**First Assistant Secretary.**—Ebert K. Burlew.

**Assistant Secretary.**—Oscar L. Chapman.

**Special Assistants to the Secretary.**—William H. McCrillis and James V. McClintic.

**Chief Clerk.**—Floyd E. Dotson.

**Solicitor.**—Warner W. Gardner.

**Director of Classification.**—John Harvey.

**Commissioner of the General Land Office.**—Fred W. Johnson.

**Fish and Wildlife Service.**—Ira N. Gabrielson, Director.

**Commissioner of the Office of Indian Affairs.**—John Collier.

**Indian Arts and Crafts Board.**—John Collier, Chairman.

**Director of the Geological Survey.**—W. C. Mendenhall.

**Commissioner of the Bureau of Reclamation.**—John C. Page.

**Director of the National Park Service.**—Newton B. Drury.

**Director of the Bureau of Mines.**—R. R. Sayers.

**Division of Territories and Island Possessions.**—Benjamin W. Thoron.

**Territorial Officials.**—

Alaska—Ernest Gruening, Governor.

Hawaii—Ingram M. Stainback, Governor.

Virgin Islands—Charles Harwood, Governor.

Puerto Rico—Rexford G. Tugwell, Governor.

**Puerto Rico Reconstruction Administration.**—(Vacant), Administrator.

**The Alaska Railroad.**—Otto F. Ohlson, General Manager.

**Petroleum Administration for War.**—Harold L. Ickes, Administrator.

**Petroleum Conservation Division.**—Jack W. Steele, Acting Director.

**United States Travel Bureau.**—W. Bruce Macnamee, Chief.

**Director of Grazing.**—R. H. Rutledge.

**Bituminous Coal Division.**—Dan H. Wheeler, Director.

**National Power Policy Committee.**—Harold L. Ickes, Chairman.

## DEPARTMENT OF AGRICULTURE

**Secretary of Agriculture.**—Claude R. Wickard.

**Under Secretary.**—Paul H. Appleby.

**Assistant Secretary.**—Grover B. Hill.

**Assistants to the Secretary.**—Samuel B. Bledsoe, Carl Hamilton, Emery E. Jacobs, Herbert W. Parisius, Thomas J. Flavin, Robert L. Webster, and Edward Jerome Overby.

**Agricultural Conservation and Adjustment Administration.**—M. Clifford Townsend, Administrator.

**Agricultural Marketing Administration.**—Roy F. Hendrickson, Administrator.

**Director of Extension Service.**—Milburn L. Wilson.

**Agricultural Research Administration.**—E. C. Auchter, Administrator.

**Director of Personnel.**—T. Roy Reid.

**Director of Information.**—Morse Salisbury.

**Land Use Coordinator.**—E. H. Wiecking.

**Director of Finance and Budget Officer.**—W. A. Jump.

**Office of Plant and Operations.**—Arthur B. Thatcher, Chief.

**Office for Agricultural War Relations.**—Samuel B. Bledsoe, Director.

**Sugar Agency.**—Joshua Bernhardt, Chief.

**Solicitor.**—Robert H. Shields.

**Librarian.**—Ralph R. Shaw.

**Office of Civilian Conservation Corps Activities.**—Fred Morrell, Chief.

**Office of Experiment Stations.**—James T. Jardine, Chief.

**Office of Foreign Agricultural Relations.**—Leslie A. Wheeler, Director.

**Bureau of Animal Industry.**—John R. Mohler, Chief.

**Bureau of Dairy Industry.**—O. E. Reed, Chief.

**Bureau of Plant Industry.**—R. M. Salter, Chief.

**Forest Service.**—Earle H. Clapp, Chief.

### III. THE NATIONAL GOVERNMENT

**Bureau of Agricultural Chemistry and Engineering.**—W. W. Skinner, Chief.

**Bureau of Entomology and Plant Quarantine.**—P. N. Annand, Chief.

**Bureau of Agricultural Economics.**—Howard R. Tolley, Chief.

**Bureau of Home Economics.**—Louise Stanley, Chief.

**Commodity Credit Corporation.**—J. B. Hutson, President.

**Soil Conservation Service.**—H. H. Bennett, Chief.

**Farm Security Administration.**—C. B. Baldwin, Administrator.

**Farm Credit Administration.**—A. G. Black, Governor.

**Federal Farm Mortgage Corporation.**—A. G. Black, Chairman.

**Economic Adviser.**—Mordecai J. B. Ezekiel.

**Federal Crop Insurance Corporation.**—M. Clifford Townsend, Chairman.

**Rural Electrification Administration.**—Harry Slattery, Administrator.

#### DEPARTMENT OF COMMERCE

**Secretary of Commerce.**—Jesse H. Jones.

**Under Secretary.**—Wayne C. Taylor.

**Assistant Secretary.**—William L. Clayton.

**Special Aviation Assistant to the Secretary.**—W. A. M. Burden.

**Assistants to the Secretary.**—Norman W. Baxter, James W. Bryan, Miller C. Foster, and Raymond C. Miller.

**Administrative Assistant to the Secretary.**—Malcolm Kerlin.

**Solicitor.**—South Trimble, Jr.

**Chief Clerk and Superintendent.**—E. W. Libbey.

**Chief of Division of Accounts.**—Clarence O. Luhn.

**Chief of Division of Publications.**—Clifford F. Mayne.

**Chief of Division of Purchases and Sales.**—Walter S. Erwin.

**Librarian.**—Charlotte L. Carmody.

**Director of the Bureau of the Census.**—James C. Capt.

**Civil Aeronautics Administration.**—Charles I. Stanton, Administrator.

**Civil Aeronautics Board.**—L. Welch Pogue, Chairman.

**Director of the Bureau of Foreign and Domestic Commerce.**—Grosvenor M. Jones, Acting Director.

**Director of the National Bureau of Standards.**—Lyman J. Briggs.

**Director of the Coast and Geodetic Survey.**—L. O. Colbert.

**Commissioner of the Patent Office.**—Conway P. Coe.

**Inland Waterways Corporation.**—Chester C. Thompson, President-Chairman.

**Weather Bureau.**—Francis W. Reichelderfer, Chief.

**National Inventors' Council.**—Charles F. Kettering, Chairman.

**Government Activities Directed by the Secretary of Commerce:**

Reconstruction Finance Corporation

Defense Plant Corporation

Defense Supplies Corporation

Metals Reserve Company

Rubber Reserve Company

RFC Mortgage Company

Federal National Mortgage Association

Disaster Loan Corporation

Export-Import Bank of Washington

War Damage Corporation

#### DEPARTMENT OF LABOR

**Secretary of Labor.**—Frances Perkins.

Charged with the duty of fostering, promoting and developing the welfare of the wage earners of the United States and also working towards a solution of labor problems.

**Administrative Assistant to the Secretary.**—Frances Jurkowitz.

**The Assistant Secretary.**—Daniel W. Tracy.

**Second Assistant Secretary.**—(Vacant).

**Special Assistant to the Secretary.**—Mary La Dame.

**Solicitor.**—Irving J. Levy, Acting.

**Chief Clerk and Budget Officer.**—James E. Dodson.

**Director of Information.**—J. V. Fitzgerald.

**Director of Conciliation.**—John R. Steelman.

**Director of Labor Standards.**—

Verne A. Zimmer.

## FEDERAL ADMINISTRATIVE ORGANIZATION

### Commissioner of Labor Statistics.

—Isador Lubin.

### Chief of the Children's Bureau.—

Katharine F. Lenroot.

### Director of the Women's Bureau.

—Mary Anderson.

**Wage and Hour and Public Contracts Division.**—L. Metcalfe Walling, Administrator.

### MISCELLANEOUS EXECUTIVE SERVICES

**Civil Service Commission.**—Harry B. Mitchell, President; Mrs. Lucille F. McMillin, Arthur S. Flemming.

### Interstate Commerce Commission.

—J. Haden Alldredge, Chairman; Clyde B. Aitchison, Claude R. Porter, William E. Lee, Charles D. Mahaffie, Walter M. W. Splawn, Carroll Miller, John L. Rogers, William J. Patterson, J. Monroe Johnson.

**United States Employees' Compensation Commission.**—Mrs. Jewell W. Swofford, Chairman; Albert H. Ladner, Jr. and John J. Keegan.

**General Accounting Office.**—Lindsay C. Warren, Comptroller General of the United States.

**Federal Reserve Board.**—Marriner S. Eccles, Chairman; Ronald Ramson, Vice Chairman; M. S. Szymczak, John K. McKee, Ernest G. Draper, and Rudolph M. Evans.

**Federal Trade Commission.**—Garland S. Ferguson, Chairman; R. E. Freer, Ewin L. Davis, William A. Ayres, Charles H. March; Otis B. Johnson, Secretary.

**United States Tariff Commission.**—Oscar B. Ryder, Chairman; Lynn R. Edminster, Vice Chairman; Edgar B. Brossard, E. Dana Durand; Sidney Morgan, Secretary.

**National Housing Agency.**—John B. Blandford, Jr., Administrator.

**Federal Housing Administration.**—Abner H. Ferguson, Commissioner.

**Federal Home Loan Bank Administration.**—John H. Fahey, Commissioner.

**Federal Public Housing Authority.**—Herbert Enuneric, Commissioner.

**Foreign Trade Zones Board.**—Jesse H. Jones, Chairman.

**Federal Power Commission.**—Le-

land Olds, Chairman; Basil Manly, Vice Chairman; Claude L. Draper, John W. Scott, Clyde L. Seavey.

**Federal Communications Commission.**—James Lawrence Fly, Chairman.

**Veterans' Administration.**—Brigadier General Frank T. Hines, Administrator.

**Federal Board of Hospitalization.**—Brigadier General Frank T. Hines, Chairman.

**The Joint Board.**—Brig. Gen. John R. Deane, Secretary.

**United States Joint Chiefs of Staff.**—Brig. Gen. John R. Deane, Secretary.

**The Army and Navy Munitions Board.**—Auguste Richard, Chairman.

**The Joint Economy Board.**—Jarvis Butler, Secretary.

**United States Maritime Commission.**—Rear Admiral Emory S. Land, Chairman.

**National Munitions Control Board.**—Joseph C. Green, Executive Secretary.

**Governor of the Panama Canal.**—Brigadier General Glen E. Edgerton.

**Maritime Labor Board.**—Robert W. Bruere, Chairman.

**National Labor Relations Board.**—H. A. Millis, Chairman.

**National Advisory Committee for Aeronautics.**—Dr. Jerome C. Hunsaker, Chairman.

**The Commission of Fine Arts.**—Gilmore D. Clarke, Chairman.

**National Mediation Board.**—George A. Cook, Chairman.

**National Capital Park and Planning Commission.**—Gen. U. S. Grant 3d, Chairman.

### Smithsonian Institution.—

Established 1846 under the terms of the will of James Smithson for the "increase and diffusion of knowledge among men." The former aim is accomplished by the promoting of original, scientific research, and the latter by publications and lectures. The affairs of the institution are managed by a Board of Regents which co-operates with the Government and with National scientific bodies. Under the direction of the Institution are the National Museum, charged



### III. THE NATIONAL GOVERNMENT

with preserving and utilizing objects of art and ethnological, geological and mineralogical collections belonging to the United States; Bureau of American Ethnology, National Gallery of Art, Freer Gallery of Art, National Zoological Park, Astrophysical Observatory, and the Regional Bureau for the United States International Catalogue of Scientific Literatures.

**National Gallery of Art.**—David K. E. Bruce, President; C. G. Abbot, Secretary.

**National Academy of Sciences.**—Frank B. Jewett, President; Isaiah Bowman, Vice President; Frederick E. Wright, Home Secretary; Walter B. Cannon, Foreign Secretary; Ross G. Harrison, Chairman of the National Research Council.

**Pan American Union.**—L. S. Rowe, Director General.

**American National Red Cross.**—Norman H. Davis, Chairman.

**Permanent Joint Board on Defense.**—F. H. La Guardia, Chairman.

**Securities and Exchange Commission.**—Ganson Purcell, Chairman.

**Tennessee Valley Authority.**—David E. Lilienthal, Chairman; Harcourt A. Morgan, James P. Pope.

**Federal Deposit Insurance Corporation.**—Leo T. Crowley, Chairman.

**National Labor Relations Board.**—H. A. Millis, Chairman.

**Railroad Retirement Board.**—Murray W. Latimer, Chairman.

**The National Archives.**—Solon J. Buck, Archivist.

**Federal Security Agency.**—Paul V. McNutt, Administrator.

**Social Security Board.**—Arthur J. Altmeyer, Chairman.

**Public Health Service.**—Thomas Parran, Surgeon General.

**U. S. Office of Education.**—John W. Studebaker, Commissioner.

**Federal Advisory Board for Vocational Education.**—Robert Watt, Chairman.

**Civilian Conservation Corps.**—James J. McEntee, Director.

**Food and Drug Administration.**—W. G. Campbell, Administrator.

**Federal Works Agency.**—Major Gen. Philip B. Fleming, Administrator.

**Work Projects Administration.**—Major Gen. Philip B. Fleming, Acting Commissioner.

**Public Works Administration.**—M. E. Gilmore, Commissioner.

**Public Roads Administration.**—Thomas H. MacDonald, Commissioner.

### MEMBERS OF THE SENATE

#### COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1943

(Dates show beginning of service in the Senate. Names of Republicans are in Roman type; those of Democrats in *Italic*; Farmer Labor in ROMAN CAPS; Progressive in SMALL CAPS.

#### ALABAMA

*John H. Bankhead, 2d* (1931).  
*Lister Hill* (1938).

#### ARIZONA

*Carl Hayden* (1927).  
*Ernest W. McFarland* (1940).

#### ARKANSAS

*H. W. Caraway* (1931).  
*John L. McClellan* (1943).

#### CALIFORNIA

*Hiram W. Johnson* (1917).  
*Sheridan Downey* (1938).

#### COLORADO

*Edwin C. Johnson* (1936).  
*Eugene D. Millikin* (1943).

#### CONNECTICUT

*Francis T. Maloney* (1935).  
*John A. Danaher* (1938).

#### DELAWARE

*James M. Tunnell* (1940).  
*C. Douglass Buck* (1943).

#### FLORIDA

*Charles O. Andrews* (1936).  
*Claude Pepper* (1936).

#### GEORGIA

*Walter F. George* (1922).  
*Richard B. Russell* (1933).

#### IDAHO

*D. Worth Clark* (1938).  
*John Thomas* (1940).

#### ILLINOIS

*Scott W. Lucas* (1938).  
*C. Wayland Brooks* (1940).

#### INDIANA

*Frederick Van Nuys* (1933).  
*Raymond E. Willis* (1940).

#### IOWA

*Guy M. Gillette* (1936).  
*George A. Wilson* (1943).

#### KANSAS

*Arthur Capper* (1919).  
*Clyde M. Reed* (1938).

#### KENTUCKY

*Alben W. Barkley* (1927).  
*A. B. Chandler* (1939).

## MEMBERS OF THE SENATE

### LOUISIANA

*John H. Overton* (1933).  
*Allen J. Ellender* (1936).

### MAINE

Wallace H. White, Jr. (1931).  
Ralph O. Brewster (1940).

### MARYLAND

*Millard E. Tydings* (1927).  
*George L. Radcliffe* (1935).

### MASSACHUSETTS

*David I. Walsh* (1926).  
Henry Cabot Lodge, Jr. (1936).

### MICHIGAN

Arthur H. Vandenberg (1928).  
Homer Ferguson (1943).

### MINNESOTA

Henrik Shipstead (1923).  
Joseph H. Ball (1940).

### MISSISSIPPI

*Theodore G. Bilbo* (1932).  
*James O. Eastland* (1943).

### MISSOURI

*Bennett C. Clark* (1933).  
*Harry S. Truman* (1935).

### MONTANA

*Burton K. Wheeler* (1923).  
*James E. Murray* (1935).

### NEBRASKA

Hugh A. Butler (1943).  
Kenneth S. Wherry (1943).

### NEVADA

*Patrick McCarran* (1932).  
*James G. Scrugham* (1943).

### NEW HAMPSHIRE

Styles Bridges (1936).  
Charles W. Tobey (1938).

### NEW JERSEY

W. Warren Barbour (1938).  
Albert W. Hawkes (1943).

### NEW MEXICO

*Carl A. Hatch* (1934).  
*Dennis Chavez* (1935).

### NEW YORK

*Robert F. Wagner* (1927).  
*James M. Mead* (1938).

### NORTH CAROLINA

*Josiah W. Bailey* (1931).  
*Robert R. Reynolds* (1932).

### NORTH DAKOTA

Gerald P. Nye (1925).  
William Langer (1940).

### OHIO

Robert A. Taft (1938).  
Harold H. Burton (1940).

### OKLAHOMA

*Elmer Thomas* (1927).  
E. H. Moore (1943).

### OREGON

Charles L. McNary (1918).  
Rufus C. Holman (1938).

### PENNSYLVANIA

James J. Davis (1931).  
*Joseph F. Guffey* (1935).

### RHODE ISLAND

*Peter G. Gerry* (1935).  
*Theodore F. Green* (1936).

### SOUTH CAROLINA

*Ellison D. Smith* (1909).  
*Burnett R. Maybank* (1941).

### SOUTH DAKOTA

Chan Gurney (1938).  
Harlan J. Bushfield (1943).

### TENNESSEE

*Kenneth McKellar* (1917).  
*Tom Stewart* (1938).

### TEXAS

*Tom Connally* (1929).  
*W. Lee O'Daniel* (1941).

### UTAH

*Elbert D. Thomas* (1933).  
*Abe Murdock* (1940).

### VERMONT

Warren R. Austin (1931).  
George D. Aiken (1940).

### VIRGINIA

*Carter Glass* (1920).  
*Harry F. Byrd* (1933).

### WASHINGTON

*Homer T. Bone* (1933).  
*Mon C. Wallgren* (1940).

### WEST VIRGINIA

*Harley M. Kilgore* (1940).  
Chapman Rivercomb (1943).

### WISCONSIN

ROBERT M. LA FOLLETTE, JR.  
(1925).  
Alexander Wiley (1938).

### WYOMING

*Joseph C. O'Mahoney* (1933).  
Edward V. Robertson (1943).

## MEMBERS OF THE HOUSE OF REPRESENTATIVES

COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1943

(Dates show beginning of service in the House. Names of Republicans are in Roman type; those of Democrats in *Italic*; Farmer Labor in ROMAN CAPS; Progressive in SMALL CAPS.

### ALABAMA

1. *Frank W. Boykin* (1935).
2. *George M. Grant* (1938).
3. *Henry B. Steagall* (1914).
4. *Sam Hobbs* (1935).
5. *Joe Starnes* (1935).
6. *Pete Jarman* (1936).
7. *Carter Manasco* (1941).
8. *John J. Sparkman* (1936).
9. *John P. Newsome* (1943).

### ARIZONA

At Large—*John R. Murdock*  
(1936).  
*Richard F. Harless* (1943).

### ARKANSAS

1. *E. C. Gathings* (1938).
2. *Wilbur D. Mills* (1938).

3. *J. W. Fulbright* (1943).
4. *Fadjo Cravens* (1939).
5. *Brooks Hays* (1943).
6. *W. F. Norrell* (1938).
7. *Oren Harris* (1940).

### CALIFORNIA

1. *Clarence F. Lea* (1917).
2. *Harry L. Englebright* (1926).
3. *J. Leroy Johnson* (1943).
4. *Thomas Ralph* (1940).
5. *Richard J. Welch* (1925).
6. *Albert E. Carter* (1925).
7. *John H. Tolan* (1935).
8. *John Z. Anderson* (1938).
9. *Bertrand W. Gearhart*  
(1935).
10. *Alfred J. Elliott* (1937).
11. *George E. Outland* (1943).

12. *Jerry Voorhis* (1936).
13. *Norris Poulson* (1943).
14. *Thomas F. Ford* (1933).
15. *John M. Costello* (1935).
16. *Will Rogers, Jr.* (1943).
17. *Cecil R. King* (1943).
18. *Ward Johnson* (1940).
19. *Chet Holifield* (1943).
20. *Carl Hinshaw* (1943).
21. *Harry R. Sheppard* (1936).
22. *John Phillips* (1943).
23. *Ed. V. Izac* (1936).

### COLORADO

1. *Lawrence Lewis* (1933).
2. *William S. Hill* (1940).
3. *J. Edgar Chenoweth* (1940).
4. *Robert F. Rockwell* (1941).

### III. THE NATIONAL GOVERNMENT

#### CONNECTICUT

At Large—B. J. Monkiewicz (1943).

1. William J. Miller (1943).
2. John D. McWilliams (1943).
3. Ranulf Compton (1943).
4. Clare Boothe Luce (1943).
5. Joseph E. Talbot (1943).

#### DELAWARE

At Large—Earle D. Willey (1943).

#### FLORIDA

1. J. Hardin Petersen (1933).
2. Emory H. Price (1943).
3. Robert L. F. Sikes (1940).
4. Pat Cannon (1938).
5. Joe Hendricks (1936).

#### GEORGIA

1. Hugh Peterson (1935).
2. E. E. Cox (1925).
3. Stephen Pace (1936).
4. A. Sidney Camp (1939).
5. Robert Ramspeck (1929).
6. Carl Vinson (1914).
7. Malcolm C. Carter (1927).
8. John S. Gibson (1940).
9. B. Frank Whelchel (1935).
10. Paul Brown (1933).

#### IDAHO

1. Compton I. White (1933).
2. Henry C. Dworshak (1938).

#### ILLINOIS

At Large—Stephen A. Day (1940).

1. William L. Dawson (1943).
2. William A. Rowan (1943).
3. Fred E. Busbey (1943).
4. Martin Gorski (1943).
5. Adolph J. Sabath (1907).
6. Thomas J. O'Brien (1943).
7. Leonard W. Schuetz (1931).
8. Thomas S. Gordon (1943).
9. Charles S. Dewey (1940).
10. Ralph E. Church (1943).
11. Chauncey W. Reed (1935).
12. Noah M. Mason (1936).
13. Leo E. Allen (1933).
14. Anton J. Johnson (1938).
15. Robert B. Chipfield (1938).
16. Everett M. Dirksen (1933).
17. Leslie C. Arends (1935).
18. Jessie Sumner (1938).
19. William H. Wheat (1938).
20. Sid Simpson (1943).
21. Evan Howell (1940).
22. Calvin D. Johnson (1943).
23. Charles W. Vursell (1943).
24. James V. Heidinger (1940).
25. C. W. (Runt) Bishop (1940).

#### INDIANA

1. Ray J. Madden (1943).
2. Charles A. Halleck (1935).
3. Robert A. Grant (1938).
4. George W. Gillie (1938).
5. Forest A. Harness (1938).
6. Noble J. Johnson (1938).
7. Gerald W. Landis (1938).
8. Charles M. La Follette (1943).
9. Earl Wilson (1940).

10. Raymond S. Springer (1938).
11. Louis Ludlow (1929).

#### IOWA

1. Thomas E. Martin (1938).
2. H. O. Talle (1938).
3. John W. Gwynne (1935).
4. Karl M. Le Compte (1938).
5. Paul Cunningham (1940).
6. Fred G. Gilchrist (1931).
7. Ben F. Jensen (1938).
8. Charles B. Hoeven (1943).

#### KANSAS

1. W. P. Lambertson (1929).
2. U. S. Guyer (1926).
3. Thomas D. Winter (1938).
4. Edward H. Rees (1936).
5. John M. Houston (1935).
6. Clifford R. Hope (1926).
7. Frank Carlson (1935).

#### KENTUCKY

1. Noble J. Gregory (1936).
2. Beverly M. Vincent (1937).
3. Emmet O'Neal (1935).
4. Edward W. Creal (1935).
5. Brent Spence (1931).
6. Virgil Chapman (1931).
7. Andrew J. May (1931).
8. Joe B. Bates (1938).
9. John M. Robsion (1935).

#### LOUISIANA

1. F. Edward Hébert (1940).
2. Paul H. Maloney (1943).
3. James Domengeaux (1940).
4. Overton Brooks (1936).
5. Charles E. McKenzie (1943).
6. James H. Morrison (1943).
7. Henry D. Larcade, Jr. (1943).
8. A. Leonard Allen (1936).

#### MAINE

1. Robert Hale (1943).
2. Margaret Chase Smith (1940).
3. Frank Fellows (1940).

#### MARYLAND

1. David J. Ward (1939).
2. H. Street T. Baldwin (1943).
3. Thomas D'Allesandro, Jr. (1938).
4. Daniel Ellison (1943).
5. Lansdale G. Sasser (1939).
6. J. Glenn Beall (1943).

#### MASSACHUSETTS

1. A. T. Treadway (1913).
2. Charles R. Clason (1936).
3. Philip J. Philbin (1943).
4. Pehr G. Holmes (1931).
5. Edith N. Rogers (1925).
6. George J. Bates (1936).
7. Thomas J. Lane (1943).
8. Angier L. Goodwin (1943).
9. Charles L. Gifford (1922).
10. Christian A. Herter (1943).
11. James M. Curley (1943).
12. J. W. McCormick (1928).
13. R. B. Wigglesworth (1928).
14. J. W. Martin, Jr. (1925).

#### MICHIGAN

1. George G. Sadowski (1943).
2. Earl C. Michener (1935).
3. Paul W. Shafer (1936).
4. Clare E. Hoffman (1935).
5. Bartel J. Jonkman (1940).
6. William W. Blackney (1938).
7. Jesse P. Wolcott (1931).
8. Fred L. Crawford (1935).
9. Albert J. Engel (1935).
10. Roy O. Woodruff (1921).
11. Fred Bradley (1938).
12. John B. Bennett (1943).
13. George D. O'Brien (1940).
14. Louis C. Rabaut (1935).
15. John D. Dingell (1933).
16. John Lestinski (1933).
17. George A. Dondero (1933).

#### MINNESOTA

1. August H. Andresen (1935).
2. Joseph P. O'Hara (1940).
3. Richard P. Gale (1940).
4. Melvin J. Mass (1935).
5. Walter H. Judd (1943).
6. Harold Knutson (1917).
7. H. Carl Andresen (1938).
8. William A. Pittenger (1938).
9. HAROLD C. HAGEN (1943).

#### MISSISSIPPI

1. John E. Rankin (1921).
2. Jamie L. Whitten (1941).
3. W. M. Whittington (1925).
4. Thomas G. Abernethy (1943).
5. Arthur Winstead (1943).
6. William M. Colmer (1933).
7. Dan R. McGehee (1935).

#### MISSOURI

1. Wat Arnold (1943).
2. Max Schwabe (1943).
3. William C. Cole (1943).
4. C. Jasper Bell (1935).
5. Roger C. Slaughter (1943).
6. Vacant.
7. Dewey Short (1935).
8. William P. Elmer (1943).
9. Clarence Cannon (1923).
10. Orville Zimmerman (1935).
11. Louis E. Miller (1943).
12. Walter C. Ploeser (1940).
13. John J. Cochran (1927).

#### MONTANA

1. Mike Mansfield (1943).
2. James F. O'Connor (1936).

#### NEBRASKA

1. Carl T. Curtis (1943).
2. Howard H. Buffett (1943).
3. Karl Stefan (1935).
4. A. L. Miller (1943).

#### NEVADA

At Large—Maurice J. Sullivan (1943).

#### NEW HAMPSHIRE

1. Chester E. Mellow (1943).
2. Foster Stearns (1938).

#### NEW JERSEY

1. C. A. Wolverton (1926).
2. Elmer H. Wene (1940).

# MEMBERS OF THE HOUSE OF REPRESENTATIVES

3. James C. Auchincloss (1943).
4. D. Lane Powers (1933).
5. Charles A. Eaton (1925).
6. Donald H. McLean (1933).
7. J. Parnell Thomas (1936).
8. Gordon Canfield (1940).
9. Harry L. Towle (1943).
10. F. A. Hartley, Jr. (1929).
11. Frank L. Sundstrom (1943).
12. Robert W. Kean (1938).
13. Mary T. Norton (1925).
14. Edward J. Hart (1935).

## NEW MEXICO

At Large—Clinton P. Anderson (1940).

Antonio M. Fernandez (1943).

## NEW YORK

At Large—Matthew J. Merritt (1935).

Winifred C. Stanley (1943).

1. Leonard W. Hall (1938).
2. W. B. Barry (1935).
3. Joseph L. Pfeiffer (1935).
4. Thomas H. Cullen (1919).
5. James J. Heffernan (1940).
6. Andrew L. Somers (1925).
7. John J. Delaney (1931).
8. Donald L. O'Toole (1936).
9. Eugene J. Keogh (1936).
10. Emanuel Celler (1923).
11. James A. O'Leary (1935).
12. Samuel Dickstein (1923).
13. Louis J. Capozzoli (1940).
14. Arthur G. Klein (1941).
15. Thomas F. Burchill (1943).
16. James H. Fay (1943).
17. Joseph Clark Baldwin (1941).

18. M. J. Kennedy (1930).
19. Sol Bloom (1923).
20. VITO MARCANTONIO (1938).
21. J. A. Gavagan (1929).
22. Walter A. Lynch (1940).
23. Charles A. Buckley (1935).
24. J. M. Fitzpatrick (1926).
25. Ralph A. Gamble (1937).
26. Hamilton Fish (1920).
27. Jay LeFevre (1943).
28. William T. Byrne (1936).
29. Dean P. Taylor (1943).
30. Bernard W. Kearney (1943).
31. Clarence E. Kilburn (1940).
32. Francis D. Calkin (1928).
33. Fred J. Douglas (1936).
34. Edwin Arthur Hall (1939).
35. C. E. Hancock (1927).
36. John Taber (1923).
37. W. Sterling Cole (1935).
38. Joseph J. O'Brien (1938).
39. James W. Wadsworth (1933).
40. Walter G. Andrews (1931).
41. Joseph Mruk (1943).
42. John C. Butler (1941).
43. Daniel A. Reed (1919).

## NORTH CAROLINA

1. Herbert C. Bonner (1940).
2. John H. Kerr (1923).
3. Graham A. Barden (1935).
4. Harold D. Cooley (1935).
5. John H. Folger (1941).
6. Carl T. Durham (1938).
7. J. Bayard Clark (1929).

8. W. O. Burgin (1938).
9. R. L. Doughton (1911).
10. Cameron Morrison (1943).
11. Alfred L. Bulwinkle (1931).
12. Zebulon Weaver (1931).

## NORTH DAKOTA

At Large—Usher L. Burdick (1935).

William Lemke (1943).

## OHIO

At Large—George H. Bender (1938).

1. Charles H. Elston (1938).
2. William E. Hess (1938).
3. Harry P. Jeffrey (1943).
4. Robert F. Jones (1938).
5. Cliff Clevenger (1938).
6. Edward O. McCowen (1943).
7. Clarence J. Brown (1938).
8. Frederick C. Smith (1938).
9. Homer A. Ramey (1943).
10. T. A. Jenkins (1925).
11. Walter E. Brehm (1943).
12. John M. Vorys (1938).
13. Alvin F. Welchel (1943).
14. Ed Rowe (1943).
15. P. W. Griffiths (1943).
16. Henderson H. Carson (1943).
17. J. Harry McGregor (1940).
18. Earl R. Lewis (1943).
19. Michael J. Ktrwan (1936).
20. Michael A. Felghan (1943).
21. Robert Crosser (1923).
22. Frances P. Bolton (1940).

## OKLAHOMA

1. Wesley E. Disney (1931).
2. Jack Nichols (1935).
3. Paul Stewart (1943).
4. Lyle H. Boren (1936).
5. A. S. Mike Monroney (1938).
6. Jed Johnson (1926).
7. Victor Wickersham (1941).
8. Ross Rizley (1940).

## OREGON

1. James W. Mott (1933).
2. Lowell Stockman (1943).
3. Homer D. Angell (1938).
4. Harris Ellsworth (1943).

## PENNSYLVANIA

At Large—William I. Troutman (1943).

1. James Gallagher, Sr. (1943).
2. James P. McGranery (1936).
3. Michael J. Bradley (1936).
4. John Edward Sheridan (1939).
5. C. Frederick Pracht (1943).
6. Francis J. Myers (1938).
7. Hugh D. Scott, Jr. (1940).
8. James Wolfenden (1928).
9. Charles L. Gerlach (1938).
10. J. R. Kinzer (1930).
11. John W. Murphy (1943).
12. Thomas Byron Miller (1943).
13. Ivor D. Fenton (1938).
14. Daniel K. Hoch (1943).
15. Wilson D. Gillette (1941).
16. Thomas E. Scanlon (1943).
17. J. William Ditter (1933).

18. Richard M. Simpson (1937).
19. John C. Kunkel (1938).
20. Leon H. Gavin (1943).
21. Francis E. Walter (1933).
22. Chester H. Gross (1943).
23. James E. Van Zandt (1938).
24. J. Buell Snyder (1933).
25. Grant Furlong (1943).
26. Louis E. Graham (1938).
27. Harve Tibbott (1938).
28. Augustine B. Kelley (1941).
29. Robert L. Rodgers (1938).
30. Samuel A. Weiss (1940).
31. Herman P. Eberharter (1936).
32. James A. Wright (1940).

## RHODE ISLAND

1. Aime J. Forand (1940).
2. John E. Fogarty (1940).

## SOUTH CAROLINA

1. L. Mendel Rivers (1940).
2. H. P. Fulmer (1921).
3. Butler B. Hare (1938).
4. Joseph R. Bryson (1938).
5. James P. Richards (1933).
6. John L. McMillan (1938).

## SOUTH DAKOTA

1. Karl E. Mundt (1938).
2. Francis Case (1936).

## TENNESSEE

1. B. Carroll Reece (1933).
2. John Jennings, Jr. (1940).
3. Estes Kefauver (1939).
4. Albert Gore (1938).
5. Jim McCord (1943).
6. J. Percy Priest (1940).
7. Wirt Courtney (1939).
8. Tom Murray (1943).
9. Jere Cooper (1929).
10. Clifford Davis (1940).

## TEXAS

1. Wright Patman (1929).
2. Martin Dies (1931).
3. Lindley Beckworth (1938).
4. Sam Rayburn (1913).
5. H. W. Sumners (1913).
6. Luther A. Johnson (1923).
7. Nat Patton (1935).
8. Albert Thomas (1936).
9. J. J. Mansfield (1917).
10. Lyndon B. Johnson (1937).
11. William R. Poage (1936).
12. Fritz G. Lanham (1919).
13. Ed Gossett (1938).
14. Richard M. Kleberg (1931).
15. Milton H. West (1933).
16. R. Ewing Thomason (1938).
17. Sam M. Russell (1940).
18. Eugene Worley (1940).
19. George H. Mahon (1935).
20. Paul J. Kilday (1938).
21. O. C. Fisher (1943).

## UTAH

1. Waller K. Granger (1943).
2. J. W. Robinson (1933).

## VERMONT

At Large—Charles A. Plumley (1935).



### III. THE NATIONAL GOVERNMENT

#### VIRGINIA

1. Schuyler O. Bland (1918).
2. Winder R. Harris (1941).
3. Dave E. Satterfield, Jr. (1937).
4. Patrick H. Drewry (1920).
5. Thomas G. Burch (1931).
6. C. A. Woodrum (1923).
7. A. Willis Robertson (1933).
8. Howard W. Smith (1931).
9. John W. Flannagan, Jr. (1931).

#### WASHINGTON

1. Warren G. Magnuson (1936).
2. Henry M. Jackson (1940).
3. Fred Norman (1943).
4. Hal Holmes (1943).
5. Walter F. Horan (1943).
6. John M. Coffee (1936).

#### WEST VIRGINIA

1. Andrew C. Schiffler (1943).
2. Jennings Randolph (1933).
3. Edward G. Rohrbough (1943).
4. Hubert S. Ellis (1943).
5. John Kee (1933).
6. Joe L. Smith (1929).

#### WISCONSIN

1. Lawrence H. Smith (1941).
2. HARRY SAUTHOFF (1940).
3. William H. Stevenson (1940).
4. Thad F. Wasielewski (1940).
5. Howard J. McMurray (1943).
6. Frank B. Keefe (1938).
7. Reid F. Murray (1938).
8. LaVern R. Dilweg (1943).

9. MERRLIN HULL (1935).
10. Alvin E. O'Konski (1943).]

#### WYOMING

At Large—Frank A. Barrett (1943).

#### ALASKA

Anthony J. Dimond (1933).

#### HAWAII

Joseph R. Farrington (1943).

#### PHILIPPINE ISLANDS

Joaquin M. Elizalde (1938).

#### PUERTO RICO

Bolivar Pagán (1940)

### FEDERAL JUDICIAL ORGANIZATION

BY WILLIAM M. SCHUYLER  
EDITOR, *The American Year Book*

#### SUPREME COURT OF THE UNITED STATES

Harlan F. Stone (New York), Chief Justice of the United States, appointed 1941.

Owen J. Roberts (Pennsylvania), appointed 1930.

Hugo L. Black (Alabama), appointed 1937.

Stanley F. Reed (Kentucky), appointed 1938.

Felix Frankfurter (Massachusetts), appointed 1939.

William Orville Douglas (Minnesota), appointed 1939.

Frank Murphy (Michigan), appointed 1940.

Robert H. Jackson (New York), appointed 1941.

Wiley Blount Rutledge, Jr. (Kentucky), appointed 1943.

**Officers of the Supreme Court:**

Clerk—Charles Elmore Cropley.

Deputy Clerks—Reginald C. Dilli, Hugh W. Barr, Harold B. Willey.

Marshal—Thomas E. Waggaman.

Reporter—Ernest Knabel.

Librarian—Oscar D. Clarke.

#### CIRCUIT COURT OF APPEALS OF THE UNITED STATES

District of Columbia Judicial Circuit.—Mr. Chief Justice Stone.

First Circuit.—Mr. Justice Frank-

furter; Calvert Magruder (Massachusetts), John C. Mahoney (Rhode Island), Peter Woodbury (New Hampshire).

**Second Circuit.**—Mr. Justice Jackson; Learned Hand (New York), Thomas W. Swan (Connecticut), Augustus N. Hand (New York), Harrie Brigham Chase (Vermont), Charles E. Clark (Connecticut), Jerome N. Frank (New York).

**Third Circuit.**—Mr. Justice Roberts; William Clark (New Jersey), Albert Branson Maris (Pennsylvania), John Biggs, Jr. (Delaware), Charles Alvin Jones (Pennsylvania), Herbert F. Goodrich (Pennsylvania).

**Fourth Circuit.**—Mr. Chief Justice Stone; John J. Parker (North Carolina), Morris A. Soper (Maryland), Armistead M. Dobie (Virginia).

**Fifth Circuit.**—Mr. Justice Black; Samuel H. Sibley (Georgia), Joseph C. Hutcheson, Jr. (Texas), Edwin R. Holmes (Mississippi), Leon McCord (Alabama).

**Sixth Circuit.**—Mr. Justice Reed; Xenophon Hicks (Tennessee), Elwood Hamilton (Kentucky), Charles C. Simons (Michigan), Florence E. Allen (Ohio), John D. Martin (Tennessee), Thomas F. McAllister (Michigan).

## FEDERAL JUDICIAL ORGANIZATION

**Seventh Circuit.**—Evan A. Evans (Wisconsin), William M. Sparks (Indiana), J. Earl Major (Illinois), Sherman Minton (Indiana), Otto Kerner (Illinois).

**Eighth Circuit.**—Mr. Justice Murphy; Kimbrough Stone (Missouri), John B. Sanborn (Minnesota), Archibald K. Gardner (South Dakota), Joseph W. Woodrough (Nebraska), Seth Thomas (Iowa), Harvey M. Johnsen (Missouri).

**Ninth Circuit.**—Mr. Justice Douglas; Curtis D. Wilbur (California), Francis A. Garrecht (Washington), William Denman (California), Clifton Mathews (California), Bert E. Haney (Oregon), Albert Lee Stephens (California), William Healey (Idaho).

**Tenth Circuit.**—Mr. Justice Murphy; Orie L. Phillips (Colorado), Sam G. Bratton (New Mexico), Walter A. Huxman (Kansas), Alfred P. Murrah (Oklahoma).

### UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

Finis James Garrett (Tennessee), Presiding Judge, appointed 1929.

Oscar E. Bland (Indiana), appointed 1923.

Charles Sherrod Hatfield (Ohio), appointed 1923.

Irvine L. Lenroot (Wisconsin), appointed 1929.

Joseph R. Jackson (Montana), appointed 1937.

### UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA

D. Lawrence Groner, Chief Justice.

Harold M. Stephens.

Justin Miller.

Henry White Edgerton.

Fred M. Vinson.

### COURT OF CLAIMS OF THE UNITED STATES

Richard S. Whaley (South Carolina), Chief Justice, appointed 1939.

Benjamin H. Littleton (Tennessee), appointed 1929.

Samuel E. Whitaker (Tennessee), appointed 1939.

Marvin Jones (Texas), appointed 1940.

Joseph W. Madden (Illinois), appointed 1941.

### DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

Alfred C. Eicher, Chief Justice.

James M. Proctor.

F. Dickinson Letts.

Daniel W. O'Donoghue.

Jennings Bailey.

Peyton Gordon.

Oscar R. Luhring.

T. Alan Goldsborough.

James W. Morris.

Jesse C. Adkins.

Bolitho J. Laws.

David A. Pine.

Matthew F. McGuire.

### UNITED STATES CUSTOMS COURT

Webster J. Oliver, Presiding Judge.

William J. Tilson.

Genevieve R. Cline.

David H. Kincheloe.

William J. Keefe.

Thomas J. Walker.

William A. Ekwall.

William P. Cole.

### TAX COURT OF THE UNITED STATES

J. Edgar Murdock, Presiding Judge.

Charles P. Smith.

John M. Sternhagen.

C. Rogers Arundell.

Ernest H. Van Fossan.

Eugene Black.

J. Russell Leech.

Bolon B. Turner.

Arthur J. Mellott.

William W. Arnold.

John A. Tyson.

Samuel B. Hill.

Richard L. Disney.

Marion J. Harron.

John W. Kern.

Clarence V. Oppen.

### UNITED STATES MARSHAL'S OFFICE

United States Marshal.—John B. Colpoys.

Chief Deputy Marshal.—C. Michael Kearney.

### III. THE NATIONAL GOVERNMENT

#### UNITED STATES ATTORNEY'S OFFICE

United States Attorney, District of Columbia.—Edward M. Curran.  
Assistants.—John W. Fihelly, Charles B. Murray, George E. McNeil, Cecil R. Heflin, Allen J. Krouse, William Hitz, Jr., Grace B. Stiles,

Bernard J. Long, John B. Diamond, John L. Laskey, Dennis McCarthy, Bernard Margolius, John C. Conliff, Jr., Richard R. Horner, John L. Ingoldsby, John Burke, Ray L. Jenkins, Sylvan Schwartz, Kenneth Wood.

### FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS

BY RICHARD S. SALANT

OFFICE OF THE SOLICITOR GENERAL, DEPARTMENT OF JUSTICE

#### THE SUPREME COURT AND THE WAR

It is commonly agreed that the law is something of a laggard. What is of current concern publicly and politically takes litigable shape only after the passage of a considerable number of years. The validity of the axiom is perhaps reenforced by one of the most interesting decisions of the Supreme Court in 1942, *United States v. Bethlehem Steel*, which disposed of a controversy arising out of contracts entered into during the First World War. On the other hand, its validity is almost completely destroyed by examination of the general nature of Federal litigation in 1942. The outstanding characteristic of the litigation is that it is largely war-born. The Federal legal and judicial business was largely converted to war in 1942.

#### SABOTAGE AND OTHER CASES

Although, normally, litigation must wind a slow path to the Supreme Court, three cases arising out of this war were decided by the Court. Exciting the widest popular interest was the so-called saboteur case, *Quirin v. Cox*, heard by the Court convoked for a special term in the summer of 1942 amid the most dramatic of circumstances. In that case, the Court held that the eight men who had entered the United States by submarine, after having attended German sabotage schools, were not entitled to a civil trial by jury and

could properly be tried by a military commission even though the Federal courts were still open. Its decision was upon a narrower ground than that which the Attorney General, who argued the case, urged. Although he contended that the dictum of *Ex parte Milligan*, 4 Wall. 2 that there can be no application of the law of war to citizens "where the courts are open and their process unobstructed," the Court did not pass upon the contention, but held that a military commission is the proper forum for the trial of "unlawful belligerents" who entered surreptitiously from enemy territory into our own, discarding their uniforms upon entry, and bent upon the commission of hostile acts involving destruction of life or property.

A second significant, if less dramatic, Supreme Court case involving the war was *Ex parte Kumezo Kawato*, in which it was held that a Japanese, an enemy subject, residing in the United States, was not barred from bringing an ordinary civil suit in American courts. A suit by the Italian Ambassador, to protect the interests of the Italian Government in ships seized by the United States, was held, however, to be barred by the Trading with the Enemy Act.

#### WAR CRIMINAL CASES IN THE LOWER COURTS

War prosecutions and litigation particularly marked the business of the lower Federal courts. The total

## FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS

war of today necessarily has its direct manifestations upon the law in action. A war in which important weapons are propaganda and production, and where the battleground for these weapons is domestic, inevitably and rapidly finds its way to the courts.

This phenomenon is particularly marked in the work of the division in the Department of Justice dealing with criminal and related matters. In the fiscal year 1942 that division handled 108,354 cases growing out of the war effort; this number constituted about 80 per cent of all its work. A substantial number of these cases arose under the Selective Service Act, which presented a multitude of questions ranging from a decision that a member of a tribe of the Six Nations of Indians is a citizen and subject to the Act (*Ex parte Green*), to a decision that an assault by a registrant upon a member of his local board constitutes an interference by force with the administration of the act in violation of Section 11 (*Moore v. United States*). In addition, an important subject of criminal prosecution was espionage; in a number of cases, of which the most significant were *United States v. Lang* and *United States v. Ludwig*, individuals were convicted for transmitting information of military importance to Germany. Also a number of convictions were obtained for sabotage where persons damaged planes, machines, and other articles in production.

Arousing wide public interest were sedition trials (*United States v. Christians*; *United States v. Garner*; *United States v. Pelley*), involving allegations of attempting to cause insubordination in the armed forces and seditious statements. A unique case was *United States v. Stephan*, where the defendant was charged with treason, found guilty, and sentenced to be hanged, for harboring and assisting an escaped German war prisoner. Other cases, arising out of the "spy trials" and involving persons alleged to have assisted the German spies whose case before the Supreme Court, were tried or were pending at

the close of the year. Another important group of cases arose under the Foreign Agents Registration Act in which individuals were tried for failure to register in their status as agents of a foreign principal. One of these cases, *United States v. Viereck*, was before the Supreme Court at the end of the year.

### CANCELLATION OF CITIZENSHIP

Federal war litigation was not exclusively criminal. One significant group of cases involved citizenship. On March 25, 1942, the Attorney General authorized a program looking toward the cancellation, on the ground of fraud and illegality, of citizenship of naturalized persons who retained their allegiance to Axis countries. Many hundreds of cancellation cases were thereafter instituted, in the main against naturalized citizens who were members of the German-American Bund and similar organizations.

Of widespread public interest was *Schneiderman v. United States*, an action to cancel the citizenship of an individual who acquired citizenship in 1927 at a time when he was a leader in the Communist Party. The case presented the questions whether the Party, in 1927, advocated the overthrow of this Government by force and violence, and whether a Communist leader who subscribed to the Party's principles could be attached to the Constitution of the United States and fulfill the requirements of allegiance. The case was argued in the Supreme Court in November by the Solicitor General representing the United States, and by Wendell Willkie, representing the naturalized citizen. The Court's decision was pending at the close of the year.

### OTHER WAR CASES

A vast miscellany of other cases arising out of the war were handled during the year. A large group of these involved condemnation of land for war purposes. About 4,000 condemnation cases were instituted to acquire 37,000 separate tracts of land.



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Similarly, in other fields, the war was responsible for cases involving the forfeiture and seizure of ships, litigation involving vital patents, and the acquisition of much property of various kinds held by enemy aliens.

Toward the end of the year, an increasing number of cases arising under the various war regulations were finding their way to court. These included civil suits brought by the United States for violation of orders of the War Production Board and of other war agencies. Another important group of cases involved prosecution for war frauds of various types. Numerically, the most important were the enforcement drives of the Office of Price Administration as, in December, that agency began actions to require observance of price ceilings in many fields, especially rent control, as well as actions for violation of sugar and gasoline rationing regulations. It may fairly be expected that litigation of this type will in the next year comprise a large part of the work of the courts.

#### LABOR LITIGATION

**Music Broadcasting.**—As in the past few years, a number of cases of public interest involved labor. While in 1942, the Supreme Court was not called upon to deal, as it did in the prior two years, with the question of the application of the anti-trust laws to labor, a controversial case was pending before it at the end of the year. This involved the American Federation of Musicians, against which the United States had brought an action alleging that the union's refusal to permit the making or broadcasting of records and to permit broadcasting of music by amateurs, and its demands that radio stations employ "stand-by" musicians, violated the Sherman Act. The district court held that the union was immune under the Clayton and Norris-LaGuardia acts, since the dispute involved "terms and conditions of employment"; in December the Government appealed to the Supreme Court.

**Union Racketeering.**—A related

question of the application of the Anti-Racketeering Act to a labor controversy was decided by the Supreme Court in *United States v. Local 807*. The defendants, the union, and its officers were convicted for having, by force and violence and threats, required out-of-state truck operators, who delivered food in New York, to pay an amount equal to union wages for a day's work for such truck operation in New York. The payments were exacted even though no work was performed by the defendants. The Court held that the defendants' activities were not within the purview of the Anti-Racketeering Act since they involved "the payment of wages by a bona-fide employer to a bona-fide employee." The Court held that the Act was intended only to apply to racketeering by professional gangsters and not to "traditional labor union activities."

**Protection of Employees.**—In other cases, too, labor's rights were protected and expanded by the Court. In *Interstate Commerce Commission v. Railway Labor Executives Association*, the Court held that the Interstate Commerce Commission, in authorizing abandonment of a railroad line, had power to impose conditions for the protection of employees who would be displaced as a result of the abandonment. Two significant decisions defined the coverage of the Fair Labor Standards Act. In *Kirschbaum v. Walling*, the Court held that the act applied to maintenance employees of a loft building, the tenants of which are engaged in manufacturing goods for sale in interstate commerce, while in *Warren-Bradshaw Drilling Co. v. Hall*, the act was held to apply to employees engaged in drilling the top portion of an oil well, from which, if present, oil was to be taken and sent into interstate commerce, since they were engaged in activities "necessary to production for commerce." Other important cases involving the scope of the Fair Labor Standards Act, particularly as it applies to employees of a wholesaler who receives goods from outside the state and delivers intrastate only, had

been argued before but not yet decided by the Court at the close of the year.

**Fair Labor Standards.**—Three cases, however, limited the protection of Federal Labor acts. In *Southern Steamship Co. v. National Labor Relations Board*, the Court held that the Labor Board could not order the reinstatement of seamen who by peacefully striking on a vessel and refusing to obey orders while the vessel was tied to the dock had violated the mutiny laws. In *Williams v. Jacksonville Terminal Co.*, the Court held that tips received by red caps under an arrangement under which they were required to report such tips to the terminal companies which, in turn, guaranteed to pay them the difference between such amount and the minimum wage, could be computed under the Fair Labor Standards Act as part of the statutory minimum. The red caps were, accordingly, held not to be entitled to the statutory minimum in addition to the tips.

Perhaps the most far-reaching decision under the Fair Labor Standards Act was *Walling v. A. H. Belo Corp.*, in which the employer who had paid his workers a fixed weekly wage in anticipation of the enactment of the act, entered into contracts with each employee by which the employee's hourly compensation was fixed at an artificial rate, generally equal to one-sixtieth of the weekly wage. The employer agreed to pay at that hourly rate, plus time and one-half for overtime, but with a guarantee of the weekly wage in any event. Under this arrangement, the employees did not receive overtime until they had worked more than approximately 50 hours. The Court held that the arrangement satisfied the act, since time and one-half is measured by the "regular rate" of pay and the artificial hourly rate set was the "regular rate" within the meaning of the Act. In contrast, however, the Court held in *Overnight Motor Transportation Co. v. Missel*, that where the employment contract simply called for a fixed weekly salary, without such an artificial hourly rate as was present

in the *Belo* case, the employee is entitled to overtime compensation when he works in excess of the maximum hours prescribed by the act.

#### CRIMINAL PROCEDURE

In *Goldman v. United States*, the Court returned to the thorny problem of the admissibility of evidence obtained by devices somewhat similar to wire-tapping. It adhered to its earlier opinion in *Olmstead v. United States*, 277 U. S. 438, and held that the use of a detectaphone placed against the outer wall of an office in order to overhear one end of a telephonic conversation did not violate the constitutional guarantee against unreasonable searches and seizures, and that it did not violate Section 605 of the Federal Communications Act, which forbids persons from intercepting and divulging telephonic communications. In a related case, *Goldstein v. United States*, investigators had intercepted and recorded telephone conversations, and induced witnesses to testify by divulging the contents of the records. The Court held that defendants who were not parties to the telephonic communications which had been intercepted had no standing to object to the testimony of the witnesses who had been induced to testify.

Two cases decided by the Court dealt with the rights of paupers who are defendants in criminal cases. In *Betts v. Brady*, the Court held that the Constitution did not guarantee a defendant accused of felony in a state court the right to be furnished with counsel free. In *Miller v. United States*, it was determined that a defendant who appeals his conviction is not entitled to have a stenographic transcript of the evidence supplied him at public expense in the absence of an appropriation by Congress; the defendant is, however, entitled to prepare a bill of exceptions by other means. At the close of the year, a bill, supported by the Department of Justice and the Conference of Senior Circuit Judges, was pending before Congress to provide an official system of reporting and to supply

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transcripts at public charge to paupers. The difficulties met by Miller would thus be obviated.

#### ADMINISTRATIVE PROCEDURE

Questions of judicial review of administrative action were resolved by the Court in 1942 as they had in the past. Consistent with its policy of allowing free play and considerable finality to the findings of administrative agencies, the Court set aside decisions of lower courts refusing to enforce administrative orders of the agencies on the ground that no substantial evidence in the record supported the order. Of particular interest in this field was its reversal, in *National Labor Relations Board v. Nevada Consolidated Copper Corp.*, of a lower court holding that, where evidence equally supports two conflicting inferences, the inference is unsupported by substantial evidence. The Court held that the Board's inference is final even though the evidence would have supported an inconsistent inference. In dealing, however, with the issue of what is reviewable, rather than the scope of review, the Court adopted a sterner attitude and held, in *Columbia Broadcasting System v. United States*, that regulations promulgated by the Federal Communications Commission providing that the Commission shall issue no license to stations which entered into contracts with networks containing certain proscribed provisions, were immediately reviewable upon promulgation; judicial review was not required to await the application of the rules in an individual broadcasting license proceeding.

The Court, in two other cases involving procedural questions, rejected the Government's contentions. In *Scripps-Howard v. Federal Communications Commission* it held that the court of appeals had power under the Communications Act to stay an order of the Commission granting an application for a construction permit, pending determination of an appeal from such order. In sharp contrast to the benevolence which had marked the Court's recent treatment of ad-

ministrative procedural issues, the Court, in *Cudahy Packing Co. v. Holland*, held that the Administrator of the Fair Labor Standards Act could not, in the absence of express Congressional authorization, delegate his power to sign and issue subpoenas. Since in a substantial number of situations, administrative agency heads have, without express statutory authority, delegated a variety of their functions to subordinates, the decision may be thought to cast doubt upon rather frequent practice.

#### ANTI-TRUST LAWS

The war had an immediate effect upon the program of anti-trust enforcement. On March 20, 1942, in an exchange of letters between the President, the Attorney General, the Secretaries of War and Navy, and the Assistant Attorney General in charge of anti-trust enforcement, a plan was agreed upon to suspend any pending investigation, suit, or prosecution which, in the opinion of the Secretaries of War and Navy, would interfere with production of war materials. Right was reserved to the Attorney General to lay all the facts before the President, whose decision is to be final. Pursuant to this arrangement, a number of cases were suspended.

In addition, the anti-trust laws were invoked to free war industries from illegal restraints, and as a result consent decrees were entered in a number of cartel cases where the cartels imposed a policy of high prices and low turnover in return for a system of protected markets. The decrees made thousands of patents relating to vital materials available to independent business enterprise, and German cartel control was ended. Anti-trust laws were also utilized in fields of importance to the war. For example, study of the entire transportation field was begun. In the fields of food manufacture and processing, some 60 indictments were returned alleging non-competitive buying practices and price-fixing.

Two anti-trust cases of importance decided by the Supreme Court were



## FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS

*United States v. Masonite Corp.*, and *United States v. Univis Lens Co.* These cases sharply restricted the use to which patents may be put in fixing prices and restraining competition. A third case of considerable public concern was *American Medical Association v. United States*, argued before, but not yet decided by, the Court at the close of the year. The case involved the question of whether an organization of doctors restrained trade in its activities in opposition to a group health plan, and whether such activities are immunized as labor activities under the Clayton and Norris-LaGuardia Acts.

### RATE-MAKING

An important chapter was added to the long, complex, and sometimes confused history of rate-making by the Supreme Court's decision in *Federal Power Commission v. Natural Gas Pipeline Co.* In upholding a rate order issued by the Power Commission under the Natural Gas Act, the Court, speaking through Chief Justice Stone, discussed the limitations which the due process clause of the Constitution imposes upon rate-making bodies. The Court concluded that judicial review of the rate-making need not concern itself with inquiry into whether any single formula or combination of formulae were utilized by the rate-maker. Rather, the rate-maker is free to determine reasonable rates upon such grounds as, in its judgment, seems proper, and judicial inquiry is limited to determination whether, on the whole record, the result is arbitrary and unsupported. In so holding, the Court seems *sub silentio* to have overruled the famous decision in *Smyth v. Ames*, 169 U. S. 466, which required that a fair return be allowed on a fair value, and that in valuation, cost of reproduction must be considered by the rate-maker. If this is the effect of the decision, the Court substituted a rate base limited to prudent investment.

### MONEY CLAIMS BY THE UNITED STATES

In two cases, long litigation by the

United States for recovery of money was finally ended by significant opinions of the Supreme Court. The first, *United States v. Pink*, established an important principle concerning the powers of the President to establish a Federal policy overriding state policy. The litigation had been begun by a claim by the United States to recover the assets of the New York branch of a Russian insurance company, which remained in the hands of the New York Superintendent of Insurance after the payment of all domestic creditors. These assets had been taken over from the Russian insurance company by the Soviet Government through its nationalization decrees of 1918 and 1919, and the Soviet Government had assigned the claim to these assets to the United States by virtue of the Litvinov Assignment of 1933, an agreement signed by the President and the Russian Commissar for Foreign Affairs. The New York courts disallowed the claim of the United States to these assets on the ground that the Soviet nationalization decrees, through which the United States claimed, were confiscatory and therefore contrary to the public policy of New York. The Supreme Court, however, held that by recognizing the Soviet Government and accepting the Litvinov Assignment, the President had established a Federal policy which disavowed any right to pass judgment on the validity of the Soviet's nationalization decrees. This policy having been established, the state courts had no power to refuse to give effect to the decrees because they may have been contrary to the state's policy against confiscation.

### THE BETHLEHEM CONTRACT CASE

In a second case, *United States v. Bethlehem Steel Corporation*, the Court sharply limited the power of the United States to attack, on the ground of exorbitant profits and coercion, contracts into which it had entered. In 1917 and 1918, the United States had entered into contracts pro-



### III. THE NATIONAL GOVERNMENT

viding for payment of total cost, plus 10 per cent of an estimated cost, plus half the difference if actual cost were less than estimated cost. While the courts indicated that the profits of 22 per cent were exorbitant, the United States had entered into the contracts with its "eyes open." The Court rejected the Government's contention that the emergency of the last war, requiring immediate building of ships, was such as to permit the Government to attack the contracts on the grounds of coercion and duress.

In passing upon this contention, the Court said that the United States was not forced into making the contracts but had other remedies to require the building of ships; its statement upon this branch of the case was a significant guide to its views in respect of Federal powers during war: "We can not regard the government of the United States as so powerless that it must seek the organization of

a private corporation as a helpless suppliant. The Constitution grants to Congress power to 'raise and support Armies,' 'to provide and maintain a Navy,' and to make all laws necessary and proper to carry these powers into execution. Under this authority Congress can draft men for battle service. Its power to draft business organizations to support the fighting men who risk their lives can be no less." The Court concluded that while it had no power to nullify the contracts, Congress had power to protect the Government, or to permit the Executive to protect the Government, against excess profits during wartime through such measures as price-fixing, establishing maximum price limits, taxing surplus profits, and like means. In short, the Court seems plainly to have indicated that the Government has full constitutional power to draft industry, and to fix the conditions for its operations, during wartime.

### CIVIL SERVICE IN THE UNITED STATES

BY HARRY B. MITCHELL

PRESIDENT, UNITED STATES CIVIL SERVICE COMMISSION

#### THE MERIT SYSTEM IN WARTIME

Under this heading in THE AMERICAN YEAR BOOK for 1941 there was described in some detail the steps taken by the United States Civil Service Commission during the preceding two years to serve the Government in its ever-expanding defense program. It was pointed out that the Civil Service Act of 1883 wisely provided the flexibility necessary to meet all emergencies.

The attack on Pearl Harbor, Hawaii, Dec. 7, 1941, brought the United States directly into the war, and the fact that modern war is total war has no greater confirmation than in the personnel activities of the Civil Service Commission since that date. In January, the first full month after the Japanese attack, 150,000 persons were placed by the Commission in Federal

agencies, the normal number for two years.

It soon became apparent that in many positions there would be a critical shortage of qualified persons and that positive and direct steps would be necessary to induce the greatest number possible to enter the Government for war work. By Executive Order the Commission was authorized to re-examine all its procedures and change them as required by the issuance of War Service Regulations. The Commission was further authorized to arrange for inter- and intra-agency transfers of government employees that their highest skills might be used in the war program.

#### RECRUITING AND TRANSFERS

The War Service Regulations promulgated by the Commission, effec-

## CIVIL SERVICE IN THE UNITED STATES

tive March 16, 1942, emphasized particularly recruiting activities, and under them, by the use of appropriations granted by Congress for the purpose, the Commission employed representatives throughout the country to engage in direct recruiting, especially for the war agencies. Every month the number of placements of employees in the service increased, reaching the tremendous total of 250,000 for the month of October. More than 90 per cent of these placements were for war agencies.

The number of transfers of government employees within the service exceeded 45,000 as a part of the personnel program to use the skills of employees more effectively.

The physically handicapped are becoming a valuable additional source of labor supply, and studies made by the Federal Civil Service Commission and state and municipal commissions show that there are many positions in which they can be usefully employed. A large number of physically handicapped persons are now, have been, and will be employed in the Federal service.

Women are being employed in greatly increasing numbers in positions formerly reserved for men. Training courses for women for work in navy yards and arsenals are being conducted with marked success.

### EMPLOYMENT SERVICE

By Executive Order, effective Jan. 1, 1942, the United States Employment Service was expanded to include on its own rolls and under its direct supervision all the state employment service offices which, while under the individual states, had been operated very largely on Federal funds. This was for the purpose of bringing uniform and speedy action to meet rapidly changing personnel needs in industry brought about by war conditions.

### RETIREMENT AND PAY REVISIONS

On Jan. 24, 1942 the President signed a revision of the Retirement

Act whereby a large number of Federal positions were brought within the retirement system. Increased annuities were also provided in the case of employees of long years of service who, through deductions from their pay, had contributed larger sums to the retirement fund. This act eliminated the present age groups of 62 and 65 and provided for optional retirement at 60 with 30 years of service, or at 62 with 15 years' service, compulsory retirement being set at 70. Employment beyond 70 years of age requires either Executive Order or a certificate by the head of the agency that the person has special qualifications and his retention is desired. The contributory deductions from employees' compensation was increased from 3½ per cent to 5 per cent.

The Congress enacted legislation providing for an increase in the compensation of low-paid Federal employees in the sub-professional and custodial groups, fixing \$1200 a year as the minimum full-time pay of an adult in these groups.

### WAR MANPOWER COMMISSION

In order to facilitate the mobilization and utilization of manpower on a national basis the President on April 18, 1942 established by Executive Order a War Manpower Commission. Among the functions assigned to this body was the formulation of plans and programs and the establishment of basic national policies to assure the most effective mobilization and maximum utilization of manpower in the prosecution of the war; the estimation of the requirements of manpower for industry, and the review of other estimates of needs for military, agricultural, and civilian manpower; the direction of the various agencies of the Government as to the proper allocation of available manpower; establishing basic policies involving the collection and compilation of labor market data; establishing policies and prescribing regulations to govern all Federal programs relating to the recruitment, vocational

### III. THE NATIONAL GOVERNMENT

training, and placement of workers to meet the needs of industry and agriculture; prescribing basic policies governing the filling of the Federal Government's requirements for manpower, excluding those of the military and naval forces; and the formulation of legislative programs designed to facilitate the most effective mobilization and utilization of the manpower of the country.

#### GROWTH OF THE EXECUTIVE CIVIL SERVICE

War necessarily adds greatly to the civilian forces as it does to the military forces. Ships must be built and repaired, and munitions, guns, tanks, airplanes, and thousands of other items of equipment must be manufactured. The accompanying table shows the growth in Federal civilian employment on a two-year basis as of the end of each fiscal year. On June 30, 1941, the total number employed was 1,358,150. During September 1942 the total number reached 2,549,474. The War Department employed 1,076,306 of this number and the Navy Department 518,663. The Postal establishment, with 317,951, dropped to third place.

#### CIVIL SERVICE IN THE STATES

**Arizona.**—The State Department of Health has been placed under the supervision of the Arizona Merit System Council which formerly included only the State Departments of Social Security and Welfare.

**California.**—In 1941 Santa Cruz, San Rafael, and Vallejo adopted civil service systems. The state legislature adopted two laws, one providing for a joint contributory retirement system for all state employees except school teachers, and the other bringing employees of the Board of Prison Terms and Paroles under the Civil Service Act. Burlingame, Montebello, Stockton, and Bakersfield entered into contracts with the California State Personnel Board for technical personnel services.

**Colorado.**—The City of Alamosa adopted a civil service system in 1941. The Attorney General of Colorado ruled that employees of the State Defense Council are not subject to the civil service laws of the state because they are employees of an emergency semi-military organization.

**Kansas.**—The civil service system was reestablished in this state. It was originally established in 1915 but

	June 30, 1934	June 30, 1936	June 30, 1938	June 30, 1940	June 30, 1942
Competitive classified positions.....	450,592	498,725	562,909	726,827	*
Unclassified and exempt positions.....	222,503	325,534	289,017	275,993	*
Total.....	673,095	824,259	851,926	1,002,820	2,207,754

\* Statistics showing the division between competitive classified positions and unclassified positions are no longer available under War Service Appointment procedures.

made inoperative by failure of the legislature to appropriate funds for its administration.

**Kentucky.**—Legislation consolidating the Louisville Civil Service Board (Police and Fire Departments) and the Louisville Personnel Commission (Health and Welfare Departments) into one three-member Civil Service Board was passed by the state legislature. The bill creates two positions,

personnel director and chief examiner, in addition to the members of the Board. The Board is authorized to employ the director and the chief examiner. The director is to serve as administrative officer of the Board and must be a person familiar with and experienced in public personnel administration. The law became effective July 1, 1942.

An act recently passed by the Ken-

## CIVIL SERVICE IN THE UNITED STATES

tucky General Assembly enables cities and counties in the state to enter into contracts to establish single purchasing units and to set up merit systems. The comptroller is to be responsible for setting up the merit system except where cities and counties have already adopted civil service.

**Louisiana.**—The constitutionality of the civil service law was upheld in a recent court decision. The act became effective Jan. 1, 1943. The legislature eliminated a section of the law which prohibited employees in the classified service from making political speeches, running for office, and serving on a committee or holding an office in a political organization.

**Minnesota.**—The State Supreme Court held that the Minneapolis Civil Service Commission has power to require school janitors and engineers to take promotional examination. This decision sustained a decision by the lower court.

**Missouri.**—The State Supreme Court handed down a series of opinions in July upholding the constitutionality of the St. Louis Civil Service charter amendment.

**New Jersey.**—The National War Labor Board recently held that a wage dispute between the State of New Jersey and the State, County, and Municipal Workers of America should be settled by the City Commissioners as the administrators of the city government. The case was the first of its kind involving municipal employees to come before the Board and was on the question of a 15-cent hourly wage increase for 1,000 municipal employees.

**New York.**—On June 29 the last two of New York State's 62 counties chose their optional forms of civil service administration as provided by law. This completed the primary step in the most extensive application of the merit system to every civil divi-

sion within a state. Under the law, civil service in several thousand school districts not already under the jurisdiction of a city civil service commission, is to be administered directly by the State Civil Service Commission.

More than 1,200 additional employees of the city of Buffalo were brought under the merit system in accordance with a ruling adopted in 1941 by the Municipal Civil Service Commission.

**Ohio.**—More than 4,000 employees of the Cleveland Railway Company acquired civil service status when the city took over the railway system on April 28. Full status was acquired by 90 per cent of the employees who had worked for the railway company longer than one year. Qualifying examinations are required for the remaining 10 per cent who had worked less than a year.

**Rhode Island.**—This is the first state to provide cash benefits for workers who can not be on the job because of illness when its legislature passed a "cash sickness insurance act" in 1942. This new law, which applies only to those workers covered by the unemployment compensation act, is to be administered by the Unemployment Compensation Board.

**Virginia.**—This state became the twentieth state to enact a statewide civil service law in 1941 when the Governor signed the Virginia Personnel Act law, effective July 1, 1942. There was also approved an act providing for a contributory retirement system for certain state employees.

**Wisconsin.**—Greendale and Lake adopted civil service systems in 1941. By a recent referendum the village board of West Milwaukee has been authorized to adopt an ordinance placing under a civil service system all employees except those of the school board.



### III. THE NATIONAL GOVERNMENT

#### PERIODICAL PUBLICATIONS

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*Army and Navy Journal*

1711 Connecticut Ave., N.W.,  
Washington, D. C.

*Civil Service Standard*

3 Beekman Place, New York City.

*Congressional Digest*

2131 LeRoy Place N.W., Washing-  
ton, D. C.

*Congressional Directory*

U. S. Government Printing Office,  
Washington, D. C.

*Congressional Record*

U. S. Government Printing Office,  
Washington, D. C.

*United States News*

2201 M Street N.W., Washington,  
D. C.

#### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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ACADEMY OF POLITICAL SCIENCE, Fayer-  
weather Hall, Columbia University,  
New York City.

AMERICAN ACADEMY OF POLITICAL AND  
SOCIAL SCIENCE, 3457 Walnut St.,  
Philadelphia, Pa.

AMERICAN BAR ASSN., 1140 N. Dear-  
born St., Chicago, Ill.

AMERICAN HISTORICAL ASSN., Library  
of Congress Annex, Study Room  
274, Washington, D. C.

AMERICAN POLITICAL SCIENCE ASSN.,  
105 Harris Hall, Northwestern Uni-  
versity, Evanston, Ill.

COMMERCIAL LAW LEAGUE OF AMERICA,  
111 W. Monroe St., Chicago, Ill.

HONEST BALLOT ASSN., INC., 27 Wil-  
liam St., New York City.

INSTITUTE OF PUBLIC ADMINISTRATION,  
261 Broadway, New York City.

NATIONAL ASSN. OF LEGAL AID ORGAN-  
IZATIONS, 25 Exchange Place, Roch-  
ester, N. Y.

NATIONAL CIVIL SERVICE REFORM  
LEAGUE, 67 W. 44th St., New York  
City.

TOWN HALL INC., THE, 123 West 43rd  
St., New York City.

## DIVISION IV

### STATE GOVERNMENT

#### STATE ADMINISTRATION AND LEGISLATION

BY HERBERT WILTSEE

DIRECTOR OF RESEARCH, COUNCIL OF STATE GOVERNMENTS

##### LEGISLATIVE SESSIONS

Legislation to meet the wartime needs of the states held the spotlight in 1942. Eight legislatures (Kentucky, Louisiana, Mississippi, New Jersey, New York, Rhode Island, South Carolina and Virginia) met in regular session during the year; 15 met in special session, including those of Alabama, Arizona, California, Connecticut, Illinois, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Missouri and Pennsylvania. All had their legislative programs written in whole or in part by war considerations.

##### NATIONAL WAR EMERGENCY

**Omnibus Statute.**—New York brought together its war laws in the most comprehensive codification of state legislation so far during the war, adopting an omnibus statute, the State War Emergency Act.

**Broadening of Governors' Powers.**—The desire to provide means for expeditious handling of emergency situations that might arise took the form in some states of large grants of authority to the governors. The Governor of Massachusetts was given sweeping powers over manpower, transportation, public utilities, food, and civilian defense. The Governors of Maine and Rhode Island were given similar powers to meet emergencies.

**Civilian Defense.**—Anti-sabotage laws were put on the books in Kentucky, Mississippi, and Pennsylvania, while Michigan and New York

amended similar acts already adopted. Acts creating councils of defense or granting them more powers were adopted in several of the states, including Mississippi and Arizona, so that by the end of 1942, all of the states had central civilian defense organizations. The California and Mississippi legislatures likewise created state guard units to take the place of the National Guard called into military service.

**Benefits for Servicemen.**—The extension of bonuses and other benefits to servicemen was heralded by the passage of acts in Massachusetts and Rhode Island. Absentee voting requirements for the same groups were modified in South Carolina and Mississippi. Mississippi servicemen were permitted, for the duration, to cast absentee ballots without payment of poll taxes. Rhode Island liberalized its absentee voting law for soldiers and sailors by waiving the requirements of affidavits.

**Punishment for Tire Thefts.**—Wartime shortages induced the passage by nine legislatures of laws providing severe punishment for the theft of tires.

**War Time Ratification.**—Federal action in placing the country on war time brought statutory ratification by most of the states which had conflicting laws.

**Reductions in Holidays.**—Also motivated by wartime considerations was the reduction in number of legal holidays. Kentucky, after reducing these to three a year, had fewer holidays

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than any other state. New Jersey's businesses and schools were introduced to a statewide staggered hours program to ease the pressure on transportation facilities.

**Easing of Professional Requirements.**—The relaxation of legal requirements for the practice of professions was an important wartime development in 1942. Requirements for practicing law were eased in Michigan and Mississippi, and for pharmacists in Mississippi and other states. A Virginia law recognized the need for physicians and surgeons by lowering certain requirements, and an Illinois law permits foreign-trained physicians to take the state medical board examinations.

### SOCIAL LEGISLATION

**Trends.**—The actual volume of 1942 laws covering public assistance, health and occupational diseases, and public welfare was less than in many recent years. A trend toward increase of unemployment benefits and in the groups covered by them was evident, however, in several of the states, including Kentucky, Pennsylvania, Michigan, Rhode Island, and Virginia. At the same time, the relief rolls in most of the states reached record low points, as booming war production created manpower shortages. Increases in benefits paid to individuals compensated to some extent, however, for the drop in the number of those receiving them.

**Sick Benefits.**—One of the most significant laws in 1942 was the compulsory cash sickness compensation act adopted by Rhode Island. This is the first such law adopted by any state. Weekly benefits will be paid under the act beginning in 1943 from funds consisting primarily of employee contributions. The fund is administered by the state unemployment compensation board and covers only employees also included in the unemployment compensation system.

**Abolition of Settlement Requirement for Relief.**—In another direction Rhode Island also pioneered. That state became the first to abolish completely its settlement require-

ment for receiving public assistance. Newcomers to the state are now immediately eligible for relief benefits. The constitutionality of other state settlement laws was cast in doubt in 1942 as a result of the decision of the United States Supreme Court in the Edwards case.

**Health and welfare measures** were enacted by 11 legislatures. The power to designate special emergency health and sanitation areas was granted in Illinois, New York, South Carolina, and Virginia to the Councils of Defense or to the Department of Health. Closely related defense housing, zoning, and rent control acts of the Maine, Massachusetts, Michigan, Mississippi, Rhode Island, and Virginia legislatures were designed to safeguard the health and welfare of workers and others in rapidly-expanding war centers. Most stringent measures to control venereal disease and prostitution were passed in Arizona, Kentucky, Michigan, Mississippi, South Carolina, and Virginia, in the attempt to stamp out both. By the end of the 1942 legislative year, all forty-eight States had adequate laws with which to combat prostitution.

### LABOR

**General.**—Labor legislation was not extensive in 1942. Workers were given greater protection against unemployment in a number of states. Several of them raised the maximum and minimum benefits and the period during which they would be paid. The Virginia compensation law was greatly altered to broaden its application.

**Child Labor.**—The child labor laws in Louisiana and Virginia were modified, the former extensively.

**Unemployment Benefits.**—To increase the number of workers on the farms, a Michigan law guaranteed that employees accepting such work would not lose their unemployment benefits. Similar guarantees were extended to Kentucky servicemen and to those of other states.

**Occupational Disease Coverage.**—A 1942 amendment to the Rhode Island workmen's compensation act

## STATE ADMINISTRATION AND LEGISLATION

provided occupational disease coverage for silicosis or asbestosis.

**Relaxing Labor Laws.**—A trend toward relaxing of the provisions of labor laws was, perhaps, more noticeable. A war emergency dispensation act in New York sanctioned for wartime production the waiving of earlier provisions that conflicted with the seven-day work week and multiple shifts. Employers in that state, however, were forbidden to discriminate in giving work because of color, race, or religion. A Virginia law permits the state commissioner of labor to authorize longer working days for women, and women are permitted to work on Sundays in South Carolina war industries, formerly shut down on that day. In 1942 most of the states which had maximum working hours laws in effect found it possible to utilize existing machinery to waive these restrictions when necessary. Connecticut and Utah, during 1942, took steps to provide labor for increased production through the operation of state-sponsored rehabilitation programs for physically-handicapped persons.

**Limiting of Union Activity.**—A Mississippi labor relations act incorporated provisions limiting union activity. Under it penalties are provided for using violence to prevent persons from engaging in legitimate occupations, or for assembly "in furtherance of violence."

### TAXATION

**Tax revenues in 1942** were unusually productive. Most of the states reported surpluses and general fund balances for the first time in many years. Tobacco taxes, especially in Connecticut, Louisiana, Maine, Massachusetts, New York, Oklahoma, Rhode Island, and Tennessee, showed large increases. State income taxes were similarly affected as were liquor revenues which went up appreciably, particularly in the "monopoly" states—Alabama, Iowa, North Carolina, and Ohio. Sales and use taxes, however, had begun to level off and, in some cases, to show decreases at the end of 1942, the result of decreasing

stocks of commodities and of restrictions on the sale of others. Nevertheless, the surpluses created constituted problems in public finance which the 1943 legislatures would have to face.

**Income taxes** were not added in any other states in 1942. In Mississippi and New York these taxes were continued but were lowered in some respects. Virginia amended her law not to apply to non-resident servicemen stationed in the state. Virginia's tax on alcoholic beverages was repealed, and the Kentucky legislature eased the requirements in that state.

**New motor fuel taxes** in Mississippi, South Carolina, and Virginia imposed levies on fuel consumed within those states, regardless of where purchased. The Maine legislature, however, continued its partial tax refunds on fuel purchased for aircraft, while Virginia provided for similar refunds in such cases.

**Sales and use taxes** were only slightly altered in 1942. Louisiana was the only state to adopt such a tax, the levy in that case amounting to one per cent. An attempt to remove the two per cent tax from food in Illinois failed to receive the approval of the electorate. Two states—Michigan and Virginia—took steps to relieve the tax burden on dealers in frozen motor vehicle stocks. Michigan exempted such persons completely from property taxes, while the Virginia law modified the retailers license tax by basing the levy on estimated 1942 sales rather than on actual 1941 sales.

**Tax exemptions** which gained approval from the voters in 1942 included a Nevada measure exempting stocks, bonds, and similar investments, along with a prohibition of an inheritance levy, and a Louisiana proposal to extend the \$2,000 homestead exemption to local taxes and tax exemption for 25 years on power lines of electric cooperatives.

**Fuel and Vehicle Revenues for Highways.**—Amendments to earmark motor fuel and vehicle revenues exclusively for highway and road use were approved by the voters in Iowa, Oregon, and West Virginia. Al-



## IV. STATE GOVERNMENT

most one third of the states now have such measures in operation.

### POST-WAR PLANNING

Planning activity by the 1942 legislatures was chiefly confined to post-war programs because of restrictions placed on the use of essential materials. By the close of 1942 nine states had adopted laws permitting municipalities and other local governments to build up reserves for post-war use. These states included California, Kentucky, Michigan, Massachusetts, Nebraska, New Jersey, New York, Oregon, and Washington. The Massachusetts Law sanctioned the investment annually in defense bonds for post-war construction of one per cent of the total assessed property valuation.

New York set up, also for post-war rebuilding, a state commission for public works planning. The commission is designed to coordinate all state planning measures in such fields as highways and housing and has been empowered to issue one third of a billion dollars in bonds to create a reserve fund for the purpose. Similar plans have been developed in Massachusetts and Minnesota.

On the local level, an important measure to empower municipalities to establish their own electric power systems was adopted in Kentucky. Local governments in that state are given the authority to buy existing properties and to contract with the Tennessee Valley Authority for current.

### STATE EMPLOYEES

During 1942 the employees of state governments were measurably affected by outside developments. Opportunities for more lucrative industrial employment made inroads. The expansion of Federal agencies and of the armed services took still more public servants from the states. Surveys showed the alarming effects of these developments in every state studied. As a result, government services were impaired and in some cases

even abandoned. For example, motor vehicle safety inspections were abandoned in Washington during 1942, and greatly curtailed in Connecticut and New Jersey.

To offset rises in the cost of living and for other reasons, state employees earning less than certain amounts were given substantial salary increases in many states, including Connecticut, Maine, Massachusetts, Michigan, Mississippi, and Rhode Island. Other steps to supply personnel for needed state services include a measure to re-hire retired employees for the duration in Massachusetts, and the easing of civil service requirements for new employees in that state and in California.

The employee retirement plan in Maine was broadened in its coverage. In North Carolina, a retirement system for teachers and other state employees went into effect on Jan. 1, 1942. Modification of pay plans to provide income stabilization for state highway employees in Minnesota was announced in 1942. Under this system, such workers who are employed on a seasonal basis will be paid throughout the year.

Virginia was the only state in 1942 to place its employees under civil service. The new merit system of that state went into effect in July, raising the total state having civil service coverage to 20. This law is unique in that the Governor and not a citizen commission or board is responsible for its administration.

### CONCLUSIONS

In general, the legislatures and administrations of the states in 1942 were conditioned in their programs and actions by the war and its accompaniments. Actual war and defense emergency laws bulked large in the 1942 statute books, but even in the fields of peacetime activity such as social welfare, taxation, and planning the needs of the war proved to be dominant forces which dictated the form that legislation took.

NATIONAL AND INTERSTATE RELATIONS OF STATES

BY FREDERICK L. ZIMMERMANN

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ON INTERSTATE COOPERATION

**FEDERAL-STATE RELATIONS**

The direct participation of the United States in the world-wide war provides, of course, the outstanding current factor in any consideration of the intergovernmental relationships of the states. Besides its immediate effects, the impact of the war may possibly have permanent and far-reaching consequences upon the development and characteristics of American federalism.

The last war marked the intensification, if not the beginning, of the trend towards centralization characteristic of the last two decades. The current war and the period of preparation which preceded active American military participation have been accompanied similarly by a wide expansion of the sphere of activity of the National Government, but the incidence of this war and of the last—and of the intervening depression—upon our Federal system has been only the crest of a deeper current. Basically, the very nature of our economic and technological development, the increased speed of transport and communication, and the heightened tempo of life have all contributed to the trend towards centralization in government as a means of meeting problems that have become increasingly complex and increasingly widespread and more difficult of solution by the governments of lesser areas.

These considerations have been reflected in the opinions of the Supreme Court acting as the umpire of federalism. The decisions of recent years have tended markedly towards the wide expansion of national power. In fact, they would seem to have eliminated in large part any broad constitutional check upon the extension of the functions of the National Gov-

ernment. The danger of this theme of constitutional interpretation is not so much that it broadens the sphere of national action as it is the possibility that the court, in expanding the national power, might imply from such an expansion wider constitutional restraints upon state action which would narrow the sphere in which the states could act and thus limit their effectiveness. Such a result would be detrimental to the Federal system by binding state governments while freeing the National Government. The decisions of the Court, however, do not seem to have tended in that direction. In fact, judicial interpretation also has freed the states, to a large extent, from the more severe restrictions of the due process clause of the Fourteenth Amendment, a very serious check until recent years upon state regulation. These factors indicate a drift in the direction of a more flexible federalism.

While clashes as to whether something is properly within the national or the state sphere of action continue and will continue, the forum for such decisions has largely shifted from the Court to the Congress. Recent proposals, such as those for the nationalization of unemployment insurance and Federal regulation of the dimensions and weights of trucks, have been opposed by the states before Congressional committees. Similar instances will undoubtedly occur, since, with the recession of the legalistic lines demarcating the division of powers between the national and state governments, the role of the states in the Federal system will be determined in the main by Congress—in other words, by public opinion. In turn, the support of public opinion for the position of the states will be predi-

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cated upon the usefulness and effectiveness of the states as units of government in our federalism.

##### **THE TREND TOWARD COOPERATIVE FEDERALISM**

This trend away from the rigidities of constitutionalism in the operation of the Federal system has been paralleled by a tendency towards cooperative federalism. While the principal current since the period of the last war has been in the direction of centralization in government, it has been accompanied by the growth of what has been called cooperative government—the achievement of a program or objective through cooperative action or administration by the various levels and units of government. Some may regard this growth as a subsidiary current in the main trend towards centralized government; nevertheless, it does offer an alternative to complete centralization. Its best known exemplifications in the field of national-state relations are, of course, those cooperative undertakings implemented by grants-in-aid from the National Government, but its possibilities are not limited to instances based on such financial inducement. The state and local levels of government seem to afford some very real administrative advantages, not the least of which is the fact that they represent established machinery. The outstanding progress in cooperation among the states in recent years, following the development of the Council of State Governments and the state Commissions on Interstate Cooperation, is another important factor in the growth of cooperative federalism.

It is significant that in this crisis of war with the concomitant strong gravitation towards centralization there has been so much recognition of the possibilities of cooperative government in national-state relations. This is due, at least in part, to the fact that the states are better organized among themselves than they were during the last war, and that their organizations—the Council of State Governments—has served as

the agency for coordinating the machinery and legislation of the states with the war needs and requests of the National Government. While the confusion and clamor of a war make judgment difficult, it would seem that up to the present the states have done a sufficiently effective job to prevent those more definite changes in the Federal relationship that have marked war governments in some of the other federalisms of the world.

##### **THE STATES AND THE WAR**

In order to illustrate the part the states played in the war effort during 1942 and the role of the Council of State Governments as the instrumentality for coordination between the states and the nation in that effort, it is necessary to explore briefly the background of this development since the time that the American people became convinced of the threat of war. In the spring of 1940, the National Government, following the pattern of the last war, established the National Defense Advisory Commission. That body, finding that the states this time had achieved a common organization, requested the Council of State Governments to aid the Commission in planning policies and programs, and more concretely, to help organize the country for defense through the medium of state governments. To that end, the Commission created a Division of State and Local Cooperation headed by the executive director of the Council of State Governments. In accordance with the course followed in 1917, State Councils of Defense were established by all the states, and through them, many local councils of defense were set up in critical military and industrial localities. It was thought that, while it was the task of the National Government to prosecute the struggle to a successful conclusion, it was the task of the state governments to buttress that effort at home. The State Councils of Defense were, therefore, given the task of conducting and operating the defense effort on the home front. The national de-

## NATIONAL AND INTERSTATE RELATIONS OF STATES

fense program which was planned at that time was predicated on the closest cooperation of all areas of government. The states and their local units of government played a commendable role in its subsequent development and operation.

At the outset, all of the States immediately furnished to the national government, at the request of the National Defense Advisory Commission, comprehensive surveys of industrial plants, machinery, tools and available industrial space within their boundaries which could be utilized for defense work. As in 1917, state organization and state machinery have administered the Selective Service program since its inception, in accordance with the policies formulated by the National Government. However, in this war, the Council of State Governments worked with the Advisory Committee to the War Department in developing that program. While there has been criticism of the operation of Selective Service, the weight of that criticism has been directed principally against the uncertainties of the policies initiated in Washington rather than against the administration of those policies by the state draft organizations. With the calling of the National Guard to Federal service, the states have established State Guards which, as they have become better equipped and organized, have become an important part of the defense organization.

### STATE WAR COUNCILS

From the start, the states, through the Council, have cooperated with the successive agencies of the National Government on war production and man power to promote the fullest use of all industrial facilities and personnel for the war effort, and in this connection, to develop procedures for the handling of war work in small industrial establishments. Through their Councils of Defense, or as they are now called, War Councils, the states have developed methods of fire prevention and control, plans for the evacuation of civilians in congested areas, and the many other

plans and organizations that constitute civilian defense. They have organized extensive training courses for potential industrial workers and for those engaged in civilian defense activities. The State War Councils, as organized more than two years ago, are today an important part of the war organization of the nation, conducting and operating the defense and war programs on the home front with an efficiency and effectiveness that has won the commendation of the war agencies of the National Government. With the impact of actual war, they have enlarged their activities and facilities and have secured widespread volunteer participation. Because of the establishment of these State Councils and this early work of the Council of State Governments, the outbreak of war found the states organized with the necessary machinery set up and operating and prepared to assume greater duties and responsibilities.

### COOPERATION IN RATIONING AND CONSERVATION

New duties came almost immediately as a consequence of a critical condition unknown during the last war—the nation was cut off from its supply of certain important materials, and a dangerous shortage necessitated rationing. At this point, it should be said that there were differences of opinion as to the machinery by which many of these wartime functions were to be administered. Some favored direct administration by the National Government. On the other side, the Council of State Governments has constantly stressed the advantages of using extant machinery represented by state and local governments as against creating a new parallel structure. The necessity for quick action in rationing tires, if we were to conserve the largest element in our stock-pile of rubber, the tires in stock and on the wheels of the nation's motor vehicles, provided a laboratory for a demonstration of these advantages.

The Office of Price Administration requested the Council of State Gov-



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ernments to assist it in conserving rubber by assuming the responsibility for organizing and operating in every community throughout the United States such machinery as was necessary for allocating tires. In the short space of three weeks, the states had organized such machinery and put it in operation throughout the country. Such an effective job was done by the States that as additional rationing has become necessary, the same machinery has handled the additional work without the necessity of the repeated re-organizations that have characterized administration of the war effort in other instances.

### THE PROBLEM OF STATE TRADE BARRIERS

Since 1938, the Council of State Governments had been interested in the well publicized problem of state trade barriers. While the extent of such state barriers was undoubtedly exaggerated in the public mind by rather spectacular publicity, there is no doubt that they constituted a very real problem. The Council and its component state Commissions on Interstate Cooperation, had been very successful in meeting the issue. The enactment of new barrier laws by the states was completely stopped, and in many cases old discriminatory statutes and regulations were eliminated or modified. It should be pointed out that many state laws and regulations which were called trade barriers by zealous publicists or by those who were affected by them, were perfectly legitimate instances of state regulation. The test of whether or not a state law is a trade barrier is an exceedingly difficult one to apply, but it has been generally conceded that the law can be classified as a trade barrier if it discriminates in terms or effect against the citizens or products of other states to the advantage of the citizens or products of the enacting state. Even this generalization is not infallible, and each state law complained against must be examined in its setting and in the light of its purpose for an accurate appraisal.

Besides those laws which can be

classified as trade barriers, there are state laws which, while they are valid manifestations of state regulation and are not discriminatory either in terms, effect, or intent, do differ markedly from similar regulatory enactments of other states. These variations in state laws, often the reflection of differing conditions or environment in the States, and usually based on perfectly valid reasons, do, in many cases, check the free flow of commerce. The decisions of the United States Supreme Court are studded with instances where such state laws have been upheld as legitimate state regulation, despite their effect upon commerce. Moreover, the Congress of the United States has, on occasion, recognized the need of protecting such variations in state action, either by consenting to state regulation of interstate commerce in particular cases where it was necessary to make state action effective, or by enacting measures providing direct Federal regulation in interstate commerce to support such state regulation. These variations are not just the result of a Federal system of government; fundamentally they are the consequences of a broad country with wide differences in regions and environment.

### VARIATIONS IN STATE LAWS AFFECTING THE WAR EFFORT

With the outbreak of war, complaint against variations in state laws and against state regulation, tending to impede the transport of material increased, in volume. The tendency, as might be expected, was to lump these instances of variation with the state laws that were actually discriminatory by designating them under the common heading of "state trade barriers." While they were, in the main, variations in state laws rather than purposeful discriminations, there was evidence that in some instances they were slowing the war effort.

The armed forces and the various national war agencies discussed this problem with the Council of State Governments and various state

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groups upon several occasions. The Council urged that the war agencies carefully appraise the situation and present specific instances of those state laws, rules, and regulations that were impeding the war effort, and any ideas they might have as to methods of solution. Following a Federal-State Conference on War Restrictions called by the U. S. Department of Commerce, which was spectacular rather than specific, the Council of State Governments suggested to the President that he appoint a small committee consisting of heads of war agencies to work with a similar group from the states to determine the exact situation and to formulate an immediate plan of action for the states.

The President appointed such a committee, including representative officials of the Departments of Commerce, Treasury, War, and Navy, the Attorney General, the War Production Board, Office of Price Administration, Office of Defense Transportation, and War Manpower Commission. This committee, after a thorough investigation, informed the Executive Committee of the Governors' Conference acting for the states, that there was only one category of state laws and regulations that was definitely impeding the war effort. These laws and regulations had to do with the size and weight requirements of the states with respect to motor transport. It should be noted that in most cases the difficulties were due to variations in state laws reflecting varying conditions rather than to discriminatory provisions. The solution suggested was the adoption by the states of uniform minimum standards concerning weights, lengths, loads, and other dimensional requirements for motor transport.

### UNIFORM MOTOR TRUCK STANDARDS

It is significant that the States had been opposing proposed Federal regulation of the sizes and weights of motor trucks before Congress, and that the measure had not passed,

though there was little doubt of its constitutionality. It is also interesting that the Interstate Commerce Commission itself in its report on the Federal proposals had not recommended complete national uniformity but variation as between nationally imposed standards in different regions. In the meantime, the state Commissions on Interstate Cooperation of the northeastern states, through their Northeastern Regional Conference on Highway Safety and Motor Vehicle Regulation, had been working on a set of standards for their regions, based on the previous recommendations of various groups of experts and administrators, and on the prevalent state practice in their area. It was this set of minimum requirements formulated by these state commissions in the Northeastern Regional Conference as part of their effort towards better interstate cooperation that the War Department recommended as the standard to be used throughout the country during the emergency. The Executive Committee of the Governors' Conference agreed to assume the responsibility of seeing that all of the states cooperated in establishing such uniform motor truck standards.

Despite their strong stand against regulation of motor truck weights and dimensions by the National Government, the states acting themselves were able, without exception, to assure the President and the war agencies within ten days after the request had been made that the uniform standards recommended were in effect throughout the country, and would continue in effect for the duration of the war. A similar recommendation for reciprocity in the licensing of trucks encountered greater difficulties, but was widely followed.

One of the recommendations made by the special committee on rubber appointed by the President was the necessity in the interest of conserving tires of reducing speed limits of motor vehicles throughout the country to 35 miles an hour. The Chairman of the Governors' Conference immediately requested that the states take steps to

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establish and enforce such a 35-mile speed limit. When the Rubber Administrator subsequently appointed by the President made a formal request that the Council of State Governments aid in this matter, the Council was able to report that the new speed limit was in effect already in most of the states and would shortly be in effect throughout the country. More recently, the Administrator of the National Housing Agency requested the Council of State Governments to aid that organization in developing plans and programs to make the fullest use of existing housing in congested production areas. The Council is at present aiding in this field.

### COORDINATION IN FISCAL POLICY

Intergovernmental competition for tax revenue has been an increasingly serious problem since the last war, reaching new heights during the depression with its concomitant shrinkage of tax revenues. In the crisis of war, although the increase in the national income would expand the potential revenues to be obtained through taxation, it was essential that Federal and state fiscal policies be closely coordinated. Not only was it necessary to insure adequate resources for the National Government in its conduct of the war and for the state and local governments in maintaining their responsibilities, duties and services at home, but it was also imperative that state and local tax programs be geared to Federal tax policy designed to secure certain economic effects, notably, a check upon the threat of inflation.

In 1941, a special Tax Committee of the Council of State Governments developed a cooperative fiscal plan. These recommendations with respect to the wartime fiscal policies for state and local governments urged that those fiscal policies conform with the broad objectives of the war period by avoiding operations that might compete with national defense for labor, materials, or equipment, by harmonizing their tax levies with the efforts

to control production and prices, and by adjusting their programs to build up reserves either through accumulation or debt retirement for a program of public works to cushion post-war readjustment. The state legislatures that met in 1942, it should be noted, followed this plan almost without exception.

During the year, four regional meetings of state Commissions on Interstate Cooperation were held in different parts of the country to consider means of putting this program into effect. The Tax Committee of the Council continued to work on the problem, and further implemented its original proposal. It now suggests to the states the passage of state legislation authorizing the preparation of plans for the post-war period, establishing a public works reserve for each state government, and permitting local governments to establish such public works reserves, and state legislation permitting the investment of state and local government surpluses in war bonds or other suitable securities. It has also recommended the passage of both Federal and state legislation to authorize the tax administering agencies of the Federal Government on the one hand, and of the state and local governments on the other, to coordinate the administration of such taxes as it may prove feasible to coordinate.

It was pointed out in this article a year ago that the Treasury Department had established a committee of tax experts to study the subject of formulating a more effective tax system for all levels of government, but that the states were not represented on the committee. Inter-level fiscal coordination has now been further implemented by the creation of the Joint Federal-State-Local Committee on Fiscal Policies and Practices as proposed by the Council of State Governments. The President asked the Secretary of the Treasury and the Director of the Budget to represent the National Government in this body. One of the suggestions made by the states to the Federal Government through this committee



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is for the issuance of a class of war bonds suitable for investment by state and local governments. It was pointed out that investment of possible state and local surpluses in such bonds would help to offset pressure for the reduction of state taxes engendered by the sharp rise of Federal taxes.

It should be observed that in addition to their importance as part of a war policy, the proposals for the use of state and local surpluses to reduce bonded indebtedness and to accumulate public works reserves is extremely important from the point of view of the long term strategy of Federal relationships. Students have often observed the tendency of governmental functions to gravitate to the level of government which, as the most effective tax gatherer, is best able to finance them. The ability of state and local governments to carry their share of the load in the post-war period may well determine their relative importance in the future of American government.

### STATE WAR LEGISLATION

It is obvious that in this period of war, state legislation must be passed to integrate the machinery and action of state governments with the efforts of the National Government in the prosecution of the war. Probably the initial cooperative step taken by the states in national defense was in the law enforcement field. Following the Federal-State Conference on Law Enforcement of National Defense, initiated by the Council in August, 1940, the Council made available for the legislative sessions of 1941 drafts of legislation for the establishment of state councils of defense, for the mobilization of state guards, for the control of explosives, and for the prevention of sabotage. This legislation was adopted in many of the states. In 1942, this list of recommended measures was increased with the addition of drafts furthering the civilian defense program. It included proposed legislation for air raid precautions, military traffic control, fire defense mobilization, and other meas-

ures designed to strengthen the home front. The few state legislatures which met in 1942, an off year, adopted this program almost in its entirety. New York State, in particular, went a long way towards the enactment of a complete pattern of war legislation.

During the year, the Council of State Governments continued its work by developing a comprehensive program of state war legislation for the legislative sessions of 1943. It is interesting to note the method of Federal-state cooperation that has been evolved in this formulation of state war legislation. Early in the work, the Council set up a drafting committee comprised of state officials skilled in drafting, such as Attorneys General, State Commissioners on Uniform State Laws, representatives of state legislative drafting agencies and members of various state Commissions on Interstate Cooperation. The National Government, on its side, to avoid having the states flooded by proposals and ideas transmitted to them by the various national agencies, centralized the work of coordination in the office of the Attorney General. The Federal agencies transmit their proposals to the Attorney General's office, which culls them and presents those that are thought to be practicable to the drafting committee of state officials. This committee in turn prepares model drafts of those measures which it thinks are desirable from the point of view of the states. The drafting committee is the fountain head for proposed state war legislation, whether the proposal originates in the National Government or in the states.

As this program of coordination has progressed, the purview of subjects for which legislation has been proposed has correspondingly widened. The recommendations for the 1943 legislative sessions cover a wide range of matters. The civilian defense provisions have now been included in the omnibus State Emergency War Powers Act, which grants many additional war powers to the



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governors and to their defense agencies. Some difference of philosophy among the states occurs in this connection. In previous enactments, some states, such as Massachusetts and New Jersey, have delegated emergency powers to their chief executives, while New York, on the other hand, has placed the power in the hands of the state's War Council on which there is legislative representation. The second part of the Council's proposed program for 1943 includes the Executive Statutory Suspension Act, a Revised Explosives Act, the Emergency Transportation Act, and proposals for emergency fiscal legislation, war housing, and the establishment of Child Care Centers. It also recommends that the states repeal their settlement laws.

Together, these proposals represent a sweeping and important program which will undoubtedly provoke wide discussion and controversy in the forthcoming state sessions. The Executive Statutory Suspension Act is particularly subject to controversy. This measure provides a method, when the legislature is not in session, for the suspension of enforcement or the modification of any statute interfering with the war effort. Yet, the experience of the Council of State Governments in trying to meet the requests of the Federal war agencies demonstrates the need for such a provision. In most states, the legislature meets only every second year, and then for a limited period. When such emergency requests are made and the legislature is not in session, it is usually impractical to call a special session in time to meet that emergency. There have been many instances when the statutes of a state have been in conflict with the request for action made by Federal war agencies, or have had the effect of impeding the war effort. The Council, therefore, is inclined to regard the enactment of some provision for speedy action as crucial to the states in playing their proper role in the war emergency, and consequently, to their position in post-war American government. The state legislative

sessions of 1943 may be very critical ones from this point of view.

### FEDERAL-STATE COOPERATIVE MACHINERY

The Council of State Governments has at various times urged that the National Government establish an agency comprising both Federal and state officials to serve as the instrumentality for Federal-state cooperation, just as the state Commissions on Interstate Cooperation have served as the agencies of their states for cooperation with other states and with the National Government. It is significant that one consequence of the war has been to bring the Council of State Governments, formerly devoted principally to projects of interstate cooperation, more and more into the field of Federal-state relations. The Council has come to be viewed in Washington as the organization that speaks for the state governments. It would seem that the developing pattern of Federal-state machinery and the increasing need for Federal-state coordination during this war period foreshadow the ultimate establishment by the National Government of some such agency to conduct its dealings with the state governments, as has been recommended by the Council of State Governments.

### DEVELOPMENT OF INTERSTATE COOPERATION

Only a few state legislatures met during 1942. The progress in interstate cooperation, therefore, was not as evident as it is during the odd numbered years when most state legislatures are in session. It should be repeated here that, from the point of view of interstate cooperation, 1941 was the most successful year in the history of the American Union. There is no reason to believe that there is any slackening of this successful progress in interstate cooperation. Rather, it is more probable that continued progress will again manifest itself when the legislatures meet in 1943. This review will, therefore, limit itself to the outstanding developments of 1942, since a compre-

prehensive survey must await the results of those legislative sessions.

The foundation for the successful achievements in interstate cooperation that in recent years have introduced a new theme in American federalism is, of course, the establishment of the machinery for cooperation among the states represented by the Council of State Governments and the state Commissions on Interstate Cooperation. These commissions, now established in 44 states, are the official negotiating agencies of their respective governments in Federal-state and interstate relations, representative of both houses of the legislature and of the executive branch, thus assuring integration within the state government in its negotiations with other governments. The rapid extension of their activities and the increasing effectiveness of their operations were the primary factors in the successful record of interstate cooperation in 1941. They have also contributed, as this review has evidenced, to the integration of the states into the national war effort, in many instances serving as the legislative arm of the state war councils.

The effectiveness of these Commissions on Interstate Cooperation is spreading from the northeast to other sections of the country. The northeast has made more rapid progress in interstate cooperation, not only because of its favorable conditions, *i.e.*, easier traveling, stronger states, and greater wealth, but also, in large part, because the Council has long maintained a regional office in New York which serves as a continuing liaison agency for the states of the region. This office serves Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, and Delaware. The growing strength of the movement is accordingly indicated by the recent establishment of a regional office in San Francisco for the states of the far west. Its territory comprises Arizona, California, Idaho, Montana, Nevada, Utah, Oregon, and Washington.

The increasing activity of the Council in Washington resulted in the creation of an office in that city which, besides maintaining relations with the National Government, will try to implement cooperation among the southern states of Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, and Alabama. The Chicago headquarters of the Council acts as a liaison agency for the states of the midwest and tries to serve the states not yet aided by a regional office.

This expansion is the result of the growing financial support of the Council of State Governments by the states. In addition, the states in increasing numbers are equipping their cooperation commissions with larger funds so that they may operate more effectively. It should be stated that in some states the cooperation commissions, because of local conditions, will never achieve the important position nor the stability those bodies have attained in some of the states of the northeast. The Council has been increasingly operating through the governors, in addition to the cooperation commissions, particularly in the regions where the state commissions are weak.

The necessity for speed in meeting war demands has enhanced this tendency. The increasing part being played by the chief executives of the states is one of the significant recent developments in the growth of the cooperative movement. The Council, which was originally conceived as an interstate legislative reference service, has continued to act as the secretariat, not only of the Commissions on Interstate Cooperation, but of its affiliated organizations—the Governors' Conference, National Association of Attorneys General, National Association of Secretaries of State, and American Legislators Association.

#### UNIFORM STATE LAWS

In 1940, the National Conference of Commissioners on Uniform State Laws joined its efforts with those of the Council in order that its recommended proposals for uniform laws

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might be presented to the state legislatures through the machinery of the Council. The Conference, since it was founded in 1892, has been very effective in the drafting of uniform laws. It had been much less successful in securing the enactment of its model measures by the states owing to the lack of any organic relationship of the Commissioners to the governments of the states. The Commissions on Interstate Cooperation, on the other hand, as official agencies of the states with legislative and administrative members, provide the necessary organic relationship and have, in consequence, been more effective in securing the adoption of their recommendations. The arrangement between the National Conference and the Council proved highly successful in the sessions of 1941, despite the fact that shortness of time limited the amount of advance preparation. Out of 208 uniform acts introduced in the state legislatures, 86 were enacted into law. This was approximately double the number of uniform acts adopted in the previous legislative year—1939.

At its annual meeting in August, 1942, the National Conference of Commissioners on Uniform State Laws, after some discussion, decided to carry on its work through the war period. It was pointed out that a break in their efforts might have serious effects, and that a number of the proposed statutes have direct bearing on the war effort. Moreover, the experience of the last war indicated not only that state legislatures continued to consider and adopt measures not related to the war, but also, that they enacted proposed uniform acts during such a period. The Conference, after careful consideration, decided to continue its cooperation with the Council for the years 1942-1943. The two organizations will, accordingly, jointly seek the enactment of proposals for uniform laws recommended by the National Conference. It is significant that the three most important organizations in the movement for interstate cooperation—the Council of State Governments, the Governors'

Conference, and the National Conference of Commissioners on Uniform State Laws—have developed a closely integrated relationship in their efforts towards a common goal.

#### INTERSTATE COOPERATION IN FISHERIES

The fisheries field again showed some outstanding successes for interstate cooperation. An important step for the conservation and better utilization of the coastal fisheries of the Atlantic Coast was taken when Maine, Virginia, and South Carolina, in their 1942 sessions, joined New Hampshire, Massachusetts, Rhode Island, New York, New Jersey, Delaware, and Maryland in the ratification of the Atlantic States Marine Fisheries Compact. The Compact established the Atlantic States Marine Fisheries Commission, comprised of three representatives from each state. This body will recommend measures for the preservation of the fisheries to the governments of the cooperating states. Its importance is that it will provide an official interstate coordinating body and an official channel for recommendations to the several states.

Of the fourteen states of the Atlantic seaboard, only Connecticut, North Carolina, Georgia, and Florida have not as yet joined. The sessions of 1943 may well see ratification by some of these states. Congress ratified the Compact during its 1942 session, with the provisos that Congressional consent is to run for 15 years, when the states must seek renewal, and that the Atlantic States Marine Fisheries Commission report to Congress, as well as to the states. This is believed to be the first time that Congress has required reports of an interstate commission established by the states through interstate compact. Possibly it marks a growing consciousness of the movement for interstate cooperation on the part of the Congress.

The delay of Congress in ratifying the Compact held up organization of the Marine Fisheries Commission until rather late in the year. With the



New York Regional Office of the Council of State Governments acting as its secretariat, the Commission has now met on three occasions and will present its first recommendations to the state legislative sessions of 1943.

The International Board of Inquiry on the Great Lakes Fisheries, a body created by the United States and Canada following initiation of the project by the states through the Council of State Governments, has made its report. Press releases of the Department of State in Washington indicate a cooperative effort by the two Federal governments, together with the governments of the lake states and the Province of Ontario, to solve the problems of these fisheries.

## INTERSTATE RIVER BASINS

The impact of the war with its resultant scarcity of materials has tended to delay projects for the abatement of pollution through the building of sewage or other disposal plants. This factor has affected the work of three important interstate commissions—the Interstate Sanitation Commission, established by compact between New York, New Jersey, and Connecticut to handle the pollution problem in New York Harbor and adjacent waters; the Interstate Commission on the Potomac River Basin, established by an interstate compact among Maryland, Virginia, West Virginia, and the District of Columbia in an effort to alleviate the pollution of the Potomac; and the Interstate Commission on the Delaware River Basin, a joint agency of the Commissions on Interstate Cooperation of Pennsylvania, New York, New Jersey and Delaware, created to seek some solution of the problems of the Delaware River. The Interstate Sanitation Commission continued to make some progress in its program for the abatement of pollution in New York Harbor. However, the legislature of New Jersey again failed to enact legislation to enable some of the financially pressed Jersey communities bordering on the Hud-

son and New York Harbor to erect sewage treatment plants. Nor is it likely that such legislation will pass at the 1943 session, since the scarcity of material practically obviates any immediate value in the measures proposed.

While lack of material practically brought to a halt any hopes for the erection of disposal plants by Philadelphia, the nub of the pollution problem on the Delaware, the Interstate Commission on the Delaware River Basin made notable progress in another problem of that river basin—allocation of potable water among New York, Pennsylvania, and New Jersey. The sharing of the waters of the Basin for drinking purposes was the cause of a long drawn-out dispute among the three states, which finally culminated in a decision of the United States Supreme Court, some years ago, granting New York City the right to withdraw water, providing it made compensating releases. The roots of the dispute remained, however, since no final allocation as among the three states was laid down in the decision. The Delaware River Basin Commission has been successful since the time of its establishment in avoiding a recurrence of that famous interstate dispute. It has now drafted legislation embodying a plan for a settlement that would seem agreeable to all the states involved. This legislation will be considered in the forthcoming sessions in Pennsylvania, New York, and New Jersey. The solution of this problem will be a notable achievement for interstate cooperation.

## MULTIPLE DEATH TAXATION

The movement for interstate cooperation continued active in many other fields. As has been previously indicated, the action taken by the states with respect to uniformity of motor truck weights and dimensions probably makes the past year an outstanding one in the elimination of state trade barriers and variations. A committee of the Northeastern Highway Safety and Motor Vehicle Conference has prepared recommenda-



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tions on the improvement of state safety education laws.

The states of the northeast have been working on the problem of multiple death taxation when two or more states claim domicile. A plan of reciprocal legislation was developed under which states may voluntarily compromise their difference and prorate the taxes collected, or, failing that, submit the question to arbitration. Results in the legislative sessions of 1941 in the northeastern states were spotty, partially because of late introduction, some states passing the compromise provisions, one state passing the complete measure, and many not acting. Further efforts are now under way to eliminate the principal objections to the bill, the lack of provision for judicial review of the arbitral decision, and the settling of the domicile question with respect to taxes separately from the question of domicile with respect to other features of the inheritance.

The question of mitigating the effects of differences in state systems of unemployment insurance and between state provisions for workmen's compensation is attracting increasing attention with proposals for the nationalization of unemployment insurance looming in the background.

##### FORESTRY

One new field of proposed joint state action is worthy of attention. The destructive impact of war needs on the nation's forests and Congress-

sional bills embodying national regulation of the cutting of trees on private lands caused alarm among the forest administrators of the northeastern states. The 1942 Eastern States Conservation Conference, therefore, created a regional committee on forestry problems, comprised of the foresters of these States and of Maryland and Virginia. That committee is preparing recommendations for the consideration of the states of this region, including a model state act for the regulation of cutting on private lands.

##### CONCLUSIONS

Despite the war, and possibly in part because of it, the tendency towards a more flexible and cooperative federalism continues. The organization of the states in the Council of State Governments has not only achieved remarkable results, but seems also to have led to a new consciousness on the part of state governments as to their role in the federalism. This consciousness of the states may be reinforced by the election returns in a reaction against some of the irritations of centralization. In any event, the war role of the states will play a decisive part in the determination of their role in times of peace. Moreover, the mechanics and devices of federalism, for which our nation has been a laboratory, may play an important role in establishing a more effective machinery for peace among the nations.

#### STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES

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##### LEGISLATIVE TRENDS

The American electorate exercised its powers of direct democracy in 1942 by passing on 124 questions at the November election. Two opportunities to call constitutional conventions, 99 proposed constitutional amendments, 15 referred bills, and eight initiated bills were presented to the

voters in a total of 32 states. In addition, local option questions on liquor sales and on racing, were submitted in all cities and towns of New Hampshire and Massachusetts; and an opportunity to express opinions on a question of international policy was offered to large sections of the Massachusetts electorate.

## STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES

On the whole the voters were not inclined to look with favor on new propositions. As in 1940 they rejected more than 50 per cent of all questions submitted and almost half of the measures proposed by their own elected representatives. Negative tendencies were the strongest in New Mexico, South Dakota, Montana, and Oklahoma, where a total of 18 measures were submitted and rejected. Louisiana, on the other hand, adopted all of the ten constitutional amendments proposed by its legislature. California led the states in the number of questions presented to its voters. From the 18 measures that appeared on their ballots, the voting citizens of that state ratified six constitutional amendments and upheld their legislature on one referred bill, while they rejected nine proposed amendments and two initiated bills.

The great bulk of questions before the electorate had already won legislative approval. Of the constitutional amendments proposed by the legislatures, 47 were ratified and 44 rejected. All of the three amendments submitted by New Hampshire's constitutional convention were ratified. Statutory bills referred to electorates after legislative enactment met with even less support than did proposed constitutional amendments. Legislatures were challenged by petitions on 11 acts and over-ruled on eight. Of the four measures referred to electorates by legislative action, two were approved and two rejected.

The power to initiate legislation by popular petition was used sparingly in 1942. Only 13 measures were submitted to the voters *via* the initiative, as contrasted with totals of 26, 54, and 46 in 1936, 1938, and 1940, respectively. Voters, displaying their usual tendency to oppose initiated measures, adopted two out of four proposed constitutional amendments, and three of the eight initiated bills. Initiated propositions were barred from the ballots by court rulings in Missouri and Nevada, on grounds that the measures were improperly presented.

### CONSTITUTIONAL REVISION

Under constitutional provisions requiring that the question shall be placed on the ballot every sixteenth year and every twentieth year, respectively, the voters of Michigan and Missouri were given opportunities to call for constitutional conventions. In Michigan the electorate chose not to exercise this power in 1942. In Missouri, where an organized movement was already under way for constitutional revision with a view to instituting a unicameral legislature, the people voted to call a convention.

Florida adopted an amendment which will authorize the legislature, by a three-fourths vote, to declare emergencies and submit constitutional amendments at special elections instead of waiting for general elections as previously required. Maryland voters refused to change the method of publicizing constitutional amendments.

### LEGISLATIVE STRUCTURE AND POWERS

Most constitutional amendments alter the powers of legislative bodies, either directly or indirectly, but changes are usually instituted in order to achieve some specific purpose, and, therefore, the measures can be discussed under the headings related to the ends that are sought. However, there were 13 proposals in 1942 that related directly to the structure or the operation of legislative bodies. New Hampshire voted to reduce the size of its House of Representatives from 400 to 375; Louisiana adopted a reapportionment amendment; and California reorganized its reapportionment commission. The New Mexico electorate, on the other hand, refused to adopt a reapportionment plan. Proposals to require split sessions, or otherwise to change the frequency or the length of legislative sessions, met with negative votes in New Mexico, California, and Colorado; and New Mexico also rejected a proposal to make legislators ineligible to other state and local offices during their

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legislative terms. Missouri decided to pay its legislators salaries of \$125 per month; and Oregon increased the per diem compensation of its lawmakers. Maryland adopted an amendment under which each legislator will receive \$1,000 per annum, but will have \$15 deducted from his salary for each day of unexcused absence. Voters in California and Utah refused to give their legislators proposed pay increases, while the voters of Delaware were unable to express themselves directly on a similar proposal, since proposed amendments in that state are ratified by the succeeding legislature.

### ADMINISTRATIVE AND EXECUTIVE

Perhaps the most striking feature of the questions submitted for direct legislation in 1942 was the large number of measures designed to organize or reorganize administrative boards. Thirteen constitutional amendments, one initiated bill, and two referred bills would have created new boards or abolished or changed existing boards. Institutions of higher learning were involved in five of these proposals, but in Montana and New Mexico, where charges of political interference with state schools had aroused the attention of national organizations, the proposals to establish independent and non-political boards of higher education were defeated. Idaho voters established an anomalous situation when they authorized the creation of an appointive board of corrections to manage the state penitentiary, but, at the same time, refused to abolish the present *ex officio* board of prison commissioners. Only in Florida and Mississippi were the legislatures fully successful in winning popular approval of plans to establish constitutional boards.

An act which would have permitted only lawyers to practice before regulatory state agencies was defeated on a referendum vote in Arkansas. California refused to extend the adjudicatory powers of administrative officers. Idaho rejected a plan to give the pardoning power to the governor. Oklahoma women must be content

for a while to remain ineligible to high executive offices. The Governor of South Dakota must continue to serve at an annual salary of \$3,000.

### JUDICIAL

Five changes in the judicial branch of state government were adopted, as against seven proposals that were rejected. In the future Florida will elect its circuit judges, while elections will not be required in Ohio to fill judicial vacancies for terms that will expire within one year. Texas and Maryland voters refused to let their legislatures create certain new courts. The voters of South Dakota decided that their supreme court judges, like their governor, should have no salary increases. Women of Vermont will become eligible to serve on juries in 1943. The county attorneys of Montana will continue to serve as advisors to grand juries.

Missourians let it be known that when they change their constitution by the use of the initiative they want it changed. In 1940 an initiated amendment was adopted whereby judges would be appointed by the governor but would be subject to reelection by non-competitive vote at the expiration of each term. The 1941 legislature sought to restore the partisan and competitive method of electing judges, but the voters rejected the proposal to repeal the so-called non-partisan court plan.

### TAXATION

Almost half of the state questions voted on in 1942 dealt with taxation or with the use of tax funds. On the whole the financial measures fared better than other questions submitted to the voters, probably because people look with favor on tax exemptions, tax limitations, limitations on the use of tax funds, and provisions for the distribution of tax revenues to local governments. The state legislature of Washington was unable to get authority to levy income taxes, and the Oregon legislature was overruled when its cigarette tax plan was subjected to popular referendum. A referred bill which would have placed



## STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES

a stiff graduated tax on chain stores was defeated in Utah. In California an initiated bill to repeal the state income tax was defeated, and an amendment establishing a new basis for taxing insurance companies was approved. New Hampshire adopted an amendment to authorize the levy of reduced taxes on growing timber. Nevada decided to exempt stocks and bonds from property taxes, and to leave inheritance taxation in the state exclusively to the Federal Government. Louisiana adopted three tax exemption acts. A plan to liberalize tax exemptions in Florida was rejected. The legislature of Illinois was denied authority to exempt foods from the sales tax.

The most popular constitutional amendments were those designed to limit the use of certain state levies, or to insure the return of benefits to the local communities. Oregon, Iowa, and West Virginia adopted so-called "good roads amendments" whereby the net revenues from motor fuel taxes must be used exclusively for highway construction and maintenance. Somewhat similar amendments were adopted in Florida, where two cents per gallon of the state gasoline tax will be apportioned among the counties for the construction of roads and the payment of road bonds, and in Louisiana, where 10 per cent of the state mineral royalties will be apportioned to the parishes for roads and bridges. As the result of an initiated amendment, one-tenth of the Arizona sales tax will be redistributed to the municipalities; and an initiated bill passed by the voters of Oregon provides that all receipts from the state income tax in excess of \$7,750,000 shall be distributed among local school districts. Only in South Dakota did the plans for state financial aid to local units of government fail to win popular support; but in that state the proposed measures would have required the state to pay school taxes on state owned lands.

### FINANCE

Old age assistance was again a popular subject of attempted direct leg-

islation. In order to prevent their legislature from repealing or amending the \$40 a month old age pension act for another two years, petitioners in Washington initiated a bill to reenact the law passed by popular vote in 1940. Although the 1942 proposal was defeated, the act of 1940 apparently remains in force, but it now becomes subject to legislative amendment or repeal. An initiated \$40 a month pension act was adopted in Idaho, while a similar plan was barred from the ballot in Nevada because the sponsors failed to give their bill an enacting clause.

Although the voters of Texas rejected four out of the five proposals placed on their ballot, they adopted one of the outstanding financial amendments of the year. Following the example set by Oklahoma in 1941, Texas will have a constitutional "cash basis" rule designed to insure balanced state budgets. After Jan. 1, 1945, no appropriation may be made in excess of cash on hand and anticipated revenues, except in the case of imperative emergency declared by a four-fifths vote of each house of the legislature. In order that compliance with the requirements may be insured, no bill containing any appropriation can be passed until the Comptroller of Public Accounts has certified that estimated available funds will not be overdrawn. Old deficits may be eliminated by means of legislation providing for the issuance of bonds to pay obligations outstanding against the general revenue fund as of Sept. 1, 1943.

### LABOR MEASURES

Perhaps the most hotly contested measure before the voters of any state in 1942 was an act passed by the legislature of California to prohibit so-called "hot cargo" and "secondary boycotts" in labor disputes. The act was bitterly opposed by organized labor, but the legislative action was upheld when referred to the electorate. On the other hand labor gained in Washington, when a referred act to increase workmen's compensation benefits was upheld. Dairymen ap-



## IV. STATE GOVERNMENT

parently lost in Michigan where a milk marketing act was defeated, but gained in North Dakota where cream buying chains will be required to post at each station the prices which they pay at all stations within a 100 mile radius.

### LOCAL GOVERNMENT

Several constitutional amendments dealt with the organization and powers of local governments, in some cases by special legislation written into constitutions. Wayne county, Michigan was denied the authority to adopt a home rule charter, and the Nebraska legislature was denied the power to enact optional plans of county government. Minnesota cities will be required to publish proposed charter amendments in only one newspaper, instead of in three as previously required. A few local units of local government were favored by higher tax ceilings, mostly in the form of special acts.

### CONCLUSION

As in the case of previous elections, an examination of the questions presented to and adopted by the voters in 1942 would probably give little comfort to the visionary advocates of direct legislation; but, on the other hand, it would disclose little evidence to support the fears of those who have opposed the initiative and referendum most bitterly. The system does not appear to open the way for the adoption of ill-conceived measures that could not weather the deliberative scrutiny of legislative bodies, and it does not add to the burdens on the electorate as much as do the proposals referred by legislatures. If the burdens of voting need to be lightened, and if the 1942 election was typical, then more can be accomplished, it seems, by revising state constitutions so as to eliminate legislative details than by doing away with the initiative and referendum.

## ELECTORAL LEGISLATION

BY O. DOUGLAS WEEKS

PROFESSOR, THE UNIVERSITY OF TEXAS

### GENERAL

While the legislatures of 19 states were convened during 1942, the volume of electoral legislation was not great and few significant changes were made. The election provisions of eight state constitutions were expanded or altered in the November general elections. New Jersey created a commission to study election laws and report in 1943 to the Legislature.

### NOMINATIONS

New provisions were enacted in five states with respect to nominations. A Louisiana law, effective until six months after the war, permits individuals in the armed services to qualify as primary candidates for any office by transmitting written statements attested by their superior officers to the Secretary of State on or before the 60th day before the pri-

mary. This procedure is quite different from that required of civilian candidates, although the fees required of all candidates remain the same. The primary laws of Virginia were altered to allow unopposed candidates to request that their names be printed on the primary ballot. If an unopposed candidate for primary nomination dies or withdraws 30 days or more before the primary, others may petition for candidacy up to 20 days before the primary; if only one petitions, he shall be declared the nominee; if two or more, their names shall be printed on the primary ballot or on a special ballot if the ballots have already been printed. When the death or withdrawal occurs less than 30 days before the primary, the appropriate party committee shall provide for a method of nomination to be used after the holding of the primary.

## ELECTORAL LEGISLATION

When an opposed candidate dies or withdraws 30 days or more before the primary a late petitioner may qualify if his petition is filed 20 days before the primary; a similar provision was adopted when a party primary nominee dies or withdraws at least 20 days before a general election. The Virginia provision requiring candidates for primary nominations to pay fees to help defray the expenses of the primary was repealed. In New Jersey a number of changes were made as to the times for filing nomination petitions. Minor amendments were enacted in Pennsylvania and New York.

### CONDUCT OF ELECTIONS

Connecticut extended the hour for closing the polls from 6 to 9 P.M. to enable those in defense industries to vote. Some local changes in polling times were made by Rhode Island. In the latter state, reserve inspectors for the relief of regular inspectors at polling places were provided, and election wardens were empowered to enter on voting lists the names of persons omitted through oversight or error. Kentucky amended and clarified her ballot law, in the main reviving the double-stub provision which was originally provided for in 1932 and apparently repealed in 1936. The Louisiana requirement that referenda be printed "under each party device" was repealed. The Supreme Court or any justice thereof in New York was given summary jurisdiction with respect to nominations, validity of ballots, the canvass and return of votes, etc. Virginia now requires that a vacancy in the office of Lieutenant Governor shall be filled for the unexpired portion of the term at the first general election after the vacancy. Virginia also amended her corrupt practices law so as to extend to candidates in caucuses, conventions, primaries, and elections the requirement of including in their expense reports all payments and promises made to publishers of newspapers and periodicals.

Kentucky and South Carolina for

the first time authorized the use of voting machines. The Kentucky law permits their use in regular, special, and primary elections. County fiscal councils are given full power to decide upon their use and in what precincts and to select the type of machine to be used subject to certain requirements set forth in the statute. County clerks are given custody of machines. Fairly detailed provisions govern their employment in elections. South Carolina legislated to permit any county or municipality to adopt voting machines for all or some precincts for primary and/or general elections. Machines must meet requirements set down in the law and must be approved by the Board of State Canvassers. The statute regulates their use in elections. The first Louisiana voting machine law, passed in anticipation of the permissive constitutional amendment adopted in 1940, was repealed and a new law substituted which is more detailed and makes some changes in regard to the extent of use and to administration—a State Custodian of Voting Machines was created; any municipality over 10,000 may now adopt machines (the previous law made them mandatory in parishes containing cities of over 150,000 and optional in other parishes); machines may be leased or lent by one governmental unit to another; maintenance as well as initial cost is now divided equally between the state and the local unit. The voting machine laws of New Jersey, New York, and Rhode Island were amended as to certain minor details.

### ABSENT VOTING

Congress enacted in September, 1942 an absent voting law, effective "for the duration," applying to each soldier, sailor, marine, and member of the Army Nurse Corps, Navy Nurse Corps, Women's Navy Reserve, and Women's Army Auxiliary Corps serving at home or abroad who is qualified to vote in his or her state, and extending to all primary and general elections for national officials without the necessity of registration

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or payment of a poll tax notwithstanding any provision of state law. Secretaries of State, state canvassing boards, and local election officials are required to cooperate; expenses are defrayed by the National Treasury. This law served to modify all state election laws in some respect, since 46 states require registration in whole or in part, 11 have only limited absent voting laws and three none, and eight require payment of poll taxes. State administrative difficulties were further complicated by Army and Navy refusal to send ballots overseas.

War conditions were mainly responsible for absent voting enactments in six states. Louisiana provided a new procedure for all persons in military and auxiliary services, but left previous procedures open to such persons. Parish registrars of voters are required to prepare and keep a roll of all persons in service according to any information available. A special "military ballot" must be prepared 30 days before primary, general, and special elections. Registered persons in service may apply at any time for absent ballots and voting may take place in the presence of any commissioned officer. To be counted, ballots must be received before the polls open on election day. Louisiana also extended her general absent voting provisions to cover elections at which "tax matters" are decided. Mississippi provided a simplified method of absent voting, restricted to primaries, for voters in the armed and auxiliary services. A longer time is allowed; no special form of application is required; voting may be before any commissioned officer; and the voted ballot may be sent to any person designated by the voter in his affidavit to be delivered at the proper polling place on election day.

New Jersey repealed all previous laws providing for absent voting for persons in military service but reenacted and consolidated much of their content with some additions. New York took similar action, substituting a temporary law (effective until July 1, 1943), which provided

for a State War Ballot Commission authorized to send and receive applications of voters stationed in domestic camps. Local election boards were assigned the task of sending and receiving ballots. Applications were not required of those in overseas service who, upon receiving ballots, were permitted to conduct their own election and return the voted ballots to the Commission, which in turn was required to send them to local election boards, the final canvass of such ballots to be made not later than Dec. 29. War voters could also follow the regular absent voting procedure. Rhode Island simplified her general absent voting procedure without specific reference to military voters. South Carolina enacted a temporary provision to permit absent voting in the primary on account of service in the military forces or of employment in government-operated defense establishments or reservations.

### REGISTRATION

Kentucky voters are no longer required to appear personally and give oath as to changes of party affiliation or residence precinct within a county but may have such changes recorded by mail. Registration procedure in Louisiana was improved and simplified in several details. Mississippi and Rhode Island permitted registration by mail for persons in the armed services. New York reduced registration requirements for those in the armed services in this country to a minimum and practically eliminated such requirements for those in foreign stations. South Carolina permitted absent enrollment in party clubs and in the voting precinct for those in military service and in government-operated defense establishments. The electoral board of any Virginia county having a density of population of 1,000 or more per square mile may establish and appoint, in addition to the existing voting district registrars, a general registrar, who shall be paid a salary, and who shall maintain daily office hours during which any voter of the county may register, receive ab-

## LAW REFORM

sent ballots, and perform other duties assigned to him by the board. Cities of from 10,000 to 14,999 may also establish a similar office. General registrars in cities of 190,000+ may now maintain offices in addition to their central offices for the convenience of voters.

### REFERENDA AND LOCAL LEGISLATION

Florida amended her constitution to provide for special emergency elections to vote upon proposed constitutional amendments when the Legislature shall require them by a three quarters vote of all members, such election to take place between 90 and 180 days after adjournment and such amendments to be carried by a majority of those voting. The Constitution of New Hampshire was amended to empower the legislature to provide for absent voting in biennial, state, and city elections because of physical disability or absence from city or

town. A constitutional amendment in Minnesota will facilitate and reduce the expense of publishing amendments to home rule charters. Final ratification was given in South Carolina to an amendment substituting a poll tax for a general tax-paying qualification for voting in municipal elections. Other amendments in Louisiana, Maryland, New Hampshire, and Ohio incidentally affected certain election arrangements.

Only a few statutes involving local electoral procedure were enacted. Kentucky permitted cities to adopt the office-block ballot for city elections. Local option elections in Mississippi to outlaw or re-legalize 4 per cent beer and wine may not occur oftener than once in five years. Mississippi and Louisiana altered their provisions for local bond elections in certain particulars. Minor local or special acts regarding elections were passed in California, New Jersey, Rhode Island, and Virginia.

## LAW REFORM

BY CLINTON ROGERS WOODRUFF  
LAWYER AND WRITER, PHILADELPHIA

### AMERICAN LAW INSTITUTE MEETING

The twentieth annual meeting of the American Law Institute was held in Philadelphia May 12-15, 1942. William Draper Lewis, director of the Institute, submitted his annual report on the work done during the year. He pointed out that there was before the members for consideration "perhaps the most interesting and important drafts that it has been the pleasure of the Council to submit at any one time—a Proposed Final Draft of the Restatement of the Law of Judgments, a Proposed Final Draft of the Code of Evidence, and a Tentative Draft of a considerable portion of the Law of Property relating to the Rule against Perpetuities."

### RESTATEMENT OF THE LAW OF JUDGMENTS

Director Lewis pointed out that the Proposed Final Draft of the Restatement of the Law of Judgments was, in the opinion of the Council, the first satisfactory statement of our law on the subject, and that in no subject had there been found greater confusion in the decisions and opinions of the courts. The first Preliminary draft was begun by Reporters Austin W. Scott and Warren A. Seavey in January, 1940.

### PROPOSED CHANGES IN THE CODE OF EVIDENCE

A tentative draft of a complete Code of Evidence was presented. "This year the proposed Final Draft



#### IV. STATE GOVERNMENT

contains a very considerable number of changes, mostly the work of the Reporter and his advisers. That any body of educated men, dealing with a subject which for the most part relates to matters concerning which they have had practical experience, should all agree not only with the general scope, arrangement and treatment, but also with each of the 112 rules proposed, was neither possible nor desirable." That the proposed draft is a great improvement on the existing law, was the opinion of Dr. Lewis. The provisions of the Final Draft were adopted by a series of votes on the various subdivisions, generally by about a two-to-one margin.

##### **PROTECTION FOR LAWYERS IN WAR SERVICE**

A "Rule of Honor" resolution, designed to give the maximum protection to lawyers in service in the resumption of practice after the war, was adopted by the State Bar of California. It is believed to be the first expression on the subject by an organized bar association in this country.

##### **RECRUITMENT FOR GOVERNMENT LEGAL SERVICE**

The Independent Offices Appropriations Bill for 1942 carries authorization for the Federal Board of Legal Examiners to proceed with its work of developing a merit system for the selection of attorneys in the Federal service. The Senate followed the recommendation of its Appropriations Committee and removed from the bill a provision inserted by the House barring the use of funds for the Board after July 1, 1942. The bill was in conference at this writing (Dec.). It is hoped that the House Conference will acquiesce in the view that the Board should be permitted to develop the program which the President has committed to its charge.

The establishment of the Board

by Executive Order in April, 1941, derives from the report of the distinguished Committee on Civil Service Improvement headed by Mr. Justice Reed of the United States Supreme Court. The primary functions of the Board are to hold competitive examinations for the establishment of registers of attorneys available for the government service, and pending the establishment of registers to pass non-competitively on the qualifications of persons selected for appointment by the various departments and agencies. Only in the lower grades will written examinations be employed, and even there they will be designed to test capacity rather than memory. In all instances the examining process will lean heavily upon oral interviews before examining committees drawn from the profession itself. Most important of all, the examination and the interviews will be conducted throughout the country with the result that recruitment for the government legal service will proceed on a nation-wide scale. This is a matter of considerable importance under ordinary circumstances. It is uniquely important at the present time when experienced lawyers everywhere are eager to serve the Government, if only for the duration of the war.

The Board of Legal Examiners has been at work for less than a year, but the record of the appropriation hearings leaves no doubt that it has made substantial progress. It has the confidence of the Attorney General and of the various government counsel upon whose appointees it must pass. It has the support of the American Bar Association and the approval of the law schools. The Civil Service Commission, originally partial to a different program, has expressed complete satisfaction with the administration of the present plan. These are solid achievements which will be tested unless the Senate's view prevails.

## COUNTY GOVERNMENT

### COUNTY GOVERNMENT

BY JANE B. LYNCH

THE COUNCIL OF STATE GOVERNMENTS

#### GENERAL

Developments in the field of county government during 1942 stemmed from the regular and special legislative sessions held by 17 states and from the general elections in November. State legislatures, with the country at war, were primarily concerned with the enactment of laws relating to the war effort. At the November elections, proposals for county government reform or reorganization were presented to the voters in several of the states or individual counties as a result either of state legislative action taken in 1941 or of the work of citizens' groups who succeeded in placing proposals upon the ballot by means of petitions.

#### COUNTIES AND THE WAR

The advent of war not only gave impetus to the already evident trend toward increased state supervision of county affairs but also accentuated the need for cooperation between the counties and other units of government.

As reported in 1942, most of the states established county defense or war councils in some or all of their counties. These councils are integrated with the state war organization in that they are responsible either to the governor or to the state defense council. Furthermore, among the prescribed duties of these county councils usually is included that of furthering the state's war program and policies. County councils throughout the country are engaging in various civilian protection activities in connection with such matters as air-raid warning services, blackouts, health and first-aid organizations, and the training of auxiliary police and firemen.

#### AIR RAID MEASURES

Several of the acts included in the program of suggested state war legislation, prepared by the Council of State Governments with the advice and assistance of various interested Federal agencies, may directly affect the counties in those states which enacted them during 1942. This legislation was prepared by the Drafting Committee of the Council's Committee on National Defense for the use of the states holding legislative sessions in 1942, with the understanding that the drafts of the various proposals were to be revised by the states considering them to fit their local needs. Of particular interest to counties are the Air Raid Precautions Act, Mobilization for Fire Defense Act, Military Traffic Control Act, and the Emergency Health and Sanitation Areas Act. As drafted, these acts are effective only during wartime.

The purpose of the Air Raid Precautions Act is to provide the necessary authorization at the state and local levels for the establishment of air raid precautions, including blackouts. The governor is authorized to establish air raid precautions and order blackouts in such areas of the state whenever he deems it necessary or upon the request of any Federal military or naval authority. Political subdivisions are authorized and directed to carry out air raid orders issued by the governor and are also authorized to order blackouts in their jurisdiction as requested by the military and naval authorities. They may make necessary regulations pertaining to such blackouts but these regulations must not conflict with those prescribed by the governor for the particular locality. This act was adopted in substance during 1942 by ten states—Louisiana, Maine, Massachusetts, Michigan, New Jersey,

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New York, Pennsylvania, Rhode Island, South Carolina, and Virginia.

### **FIRE DEFENSE MOBILIZATION**

The Mobilization for Fire Defense Act provides that the fire-fighting forces of counties, cities, towns, villages or fire districts may, at the request of the chief executive of another such political subdivision, or if the governor so orders, shall be used outside of their jurisdictions. Six states adopted acts embodying this principle during their 1942 sessions, namely, Maine, Michigan, New Jersey, New York, Rhode Island and Virginia.

### **MILITARY TRAFFIC CONTROL**

The Military Traffic Control Act is designed to facilitate the rapid and safe movement over the highways of troops, vehicles of a military nature, materials for national defense, and other war traffic. The governor, or departments he designates, is authorized to cooperate with the agencies of other states and the Federal Government for this purpose, and the chief executive or governing body of each political subdivision of the state is authorized and directed, upon request of the governor, to cooperate with him in carrying out the purposes of the act. This act was adopted by Maine, Michigan, New Jersey, New York, Rhode Island, and Virginia.

### **HEALTH AND SANITATION**

Health and sanitation problems have been complicated in many areas because of the influx of military and naval personnel and of war workers. Such areas often include more than one political subdivision, and the Health and Sanitation Areas Act attempts to cope with the situation by authorizing the state health agency to designate any such area as a special emergency health and sanitation area. Areas which may be damaged by air raids or other catastrophes are also included within the purview of the act. Local boards of health are charged with the duty of making and enforcing rules and regulations de-

signed to prevent contagious or infectious disease and to safeguard the public health within such established emergency areas. If the local health boards are unable or fail to do this, the state board is authorized to make and enforce the necessary rules and regulations and for that purpose may assume the powers and authority conferred by law upon the local boards. Five states—Arizona, New Jersey, New York, Rhode Island, and Virginia—adopted this proposal in 1942.

### **OPTIONAL FORMS OF COUNTY GOVERNMENT IN NEBRASKA**

At its 1941 session the Nebraska legislature proposed a constitutional amendment which would permit the legislature to "provide by law for a form of county government in which county officers may be elected or appointed, but such form shall be optional with each county and shall obtain in any county only upon the adoption thereof by the electors of such county." If this amendment had been approved by the electorate at the November 1942 election, the legislature would have been empowered to enact an optional county manager law. The proposal, however, was rejected by the voters by a vote of 160,801 against and 121,513 for.

### **HOME RULE IN WAYNE COUNTY, MICHIGAN**

For some time the question of home rule for Wayne County has been a live issue. During 1942, a Citizens' Committee succeeded in securing enough signatures on constitutional initiative petitions to have a home rule amendment placed on the November ballot. Ably supported by the *Detroit Free Press*, the interested citizens succeeded in obtaining over 300,000 signatures, considerably more than were necessary to place the amendment on the ballot.

The amendment, as presented to the voters, provides that Wayne County may be organized under a charter which shall provide for a chief executive, a legislative body of not more than 21 members, and other

## COUNTY GOVERNMENT

necessary officers and employees. The charter also shall provide for non-partisan nominations and elections, a system of civil service, the initiative and referendum, and the power to contract with other governmental units for the performance of functions. The amendment further requires that an election of a charter commission of 19 members shall be held within five months from the effective date of the amendment.

It was hoped by the sponsors of the amendment that the resultant charter would eliminate the main weaknesses of the present governmental structure of Wayne County—the lack of a chief executive, an unwieldy board of supervisors, a plethora of elective offices, and no adequate merit system. Unfortunately, however, the Wayne County home rule amendment was defeated at the polls by a vote of 455,320 against and 432,164 for.

### MANAGER PLAN FOR PETROLEUM COUNTY, MONTANA

An important development in the field of county government during 1942 was the adoption of a county manager plan by Petroleum County, Montana. This brings the total number of counties organized under the manager plan to seven, the other six including Sacramento County, California; Monroe County, New York; Durham County, North Carolina; and Arlington, Albemarle and Henrico counties in Virginia.

During the spring of 1942 the Board of Commissioners of Petroleum County met in special session and resolved to submit the matter of adopting the county manager form of government to a vote of the electors by referendum at the general primary election in July. At that election the voters approved the plan by a vote of 272 for and 135 against. Thus this rural Montana county, with an area of 1,675 square miles and a population of about 1,000, became the first in the state to adopt the manager form of government.

The plan went into effect Jan. 1, 1943. On that date the terms of all

county offices, except those of the treasurer and clerk of the court, expired. The treasurer held office until March 1, 1943, and the clerk of the court will do so until Jan. 1, 1945.

A board of directors will decide upon the general policies and plans of the county. This board will consist of three elective commissioners who will hold office for six years (one to be elected every two years). The county manager will be chosen by this board, and it will be his duty to execute the plans and policies of the board. The board can remove the manager at its pleasure, but he may demand a public hearing.

Three departments—finance, public works and public welfare—will administer the work of the county. The department heads are to be appointed by the manager, or he may serve as head of one or more of them himself.

The county attorney will be the only elective county official besides the commissioners. Under the present set-up, a clerk and recorder, treasurer, superintendent of schools and *ex-officio* assessor, clerk of the court, and sheriff are also elected by the voters. It is planned under the new organization to develop centralized purchasing of supplies and generally to increase administrative efficiency. In the past the various departments and offices have functioned independently of each other without any coordination of their respective activities. (This plan is discussed extensively in an article by R. R. Renne which appeared in the September, 1942, issue of the *National Municipal Review*, and from which the foregoing facts were obtained.)

### OPTIONAL CHARTER IN NORTH DAKOTA

The 1941 North Dakota Legislature, acting under the authority of a constitutional amendment approved by the electorate in 1940, enacted two laws providing for an optional form of county government. Both acts provided that upon a petition of 35 per cent of the voters of a county or upon a resolution of a majority of the Board of County Com-



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missioners, the question of adopting a manager plan of government shall be presented to the voters of the county at the next general election. The two manager plans outlined in these acts vary in that one form provides for the establishment of three administrative departments—finance, public works, and public welfare; under the other form the powers and duties attributed to such departments are vested in the county manager. While it was thought that these acts might give some impetus to county government reform in the state, the Secretary of State of North Dakota reports that no county, either as a result of a citizens' petition or resolution of the county board, considered these plans at the November election or has shown any particular interest in them.

##### **HOME RULE FOR MONTGOMERY COUNTY, MARYLAND**

A Charter Committee of Montgomery County, Maryland succeeded in having the question of home rule presented to the voters at the fall election. A petition was filed by the committee, nominating five persons to serve as a Charter Board to draft the new charter, a procedure required by the Maryland home rule law. The proposal was strongly opposed by certain groups in the county but was approved by the electors of the county by a margin of 1,800 votes.

##### **REORGANIZATION OF WESTCHESTER COUNTY BOARD**

For several years, Westchester County, New York, has been attempting to eliminate the inequitable distribution of votes on the Board of Supervisors. Under the present setup, the town of Poundridge, with a population of less than 800, has the same voting power as the town of Rye which has a population of over 8,000. In 1941 the electors of the county rejected a proposal to reduce the membership of the Board of Supervisors from 43 to 11. Subsequently, a citizens' committee recommended a plan of "weighted" voting, and the Westchester board approved

such a proposal by a vote of 33 to 4. Instead of changing the number of supervisors, the plan adopted provided that supervisors from the more populous districts should be given additional votes.

The proposal was in the form of an amendment to the county charter and consequently required action by the state legislature, which approved it during the 1942 session. Governor Lehman vetoed the measure, however, on the basis that, since the proposal made a fundamental change in the basic law of Westchester County, it should be submitted to a referendum of the voters of the county.

##### **MERIT SYSTEMS**

**Michigan.**—In 1941 the Michigan legislature enacted a bill authorizing counties having a population of 300,000 or more to adopt the civil service system outlined in the act. Because of the population clause, this act applied only to Wayne County. While the home rule amendment, which included a merit system among the matters to be provided for by the new charter, was defeated at the fall election, Wayne County voters did adopt the county civil service as proposed in Public Act No. 370 of 1941. Under the system adopted, the Board of Supervisors is to elect a Civil Service Commission of three members who shall hold office for six years, one member to be elected every two years. Not more than two members of the Commission may belong to the same political party. A personnel director, who also shall be the chief examiner and secretary of the Commission, is to be chosen by the Commission, as well as other necessary employees and assistants. Among the powers and duties of the Commission are the classification of all offices included in the merit system with reference to examinations, the supervision of the administration of civil service rules and the holding of examinations thereunder, the maintenance of an eligible list of persons passing such examinations and the certifying of the names of the per-

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

sons on such list to the several county departments.

**Minnesota.**—The State Director of Social Welfare has established merit plans for county welfare board employees in all the counties of the state, in accordance with the 1941 act empowering him to do so. Pursuant to the enabling legislation enacted at the 1941 session of the state legislature, St. Louis and Ramsey counties, the second and third most populous counties in the state, at the 1942 fall election approved by a large majority the establishment of civil service for their employees.

**New York.**—The Fite Law of 1941, extending the merit system to all civil divisions of the state, required all New York counties to choose one of three merit systems by July 1, 1942. The possible plans included (1) direct administration by the State Department of Civil Service, (2) appointment of a county personnel officer with examinations and eligible lists prepared by the state depart-

ment, and (3) establishment of a county civil service commission. The law further required that the system chosen by each county must be in operation by July 1, 1943. According to the State Department of Civil Service, five counties chose state administration, two chose the county personnel officer plan, and 48 preferred the establishment of a county civil service commission.

**New Jersey.**—Burlington and Warren counties voted in the 1942 election to adopt civil service. Hunterdon County voted against a similar proposition. Fourteen of the 21 counties in New Jersey now have merit systems for their employees.

**California.**—San Mateo County also adopted a merit system during 1942.

According to the National Municipal League, the establishment of these civil service systems during 1942 brings the total number of counties now operating under the merit system to 226.

## PERIODICAL PUBLICATIONS

*National County*  
American County Association,  
Hotel La Salle, Chicago.  
*Public Works*  
310 East 45th Street, New York  
City.

*State Government*  
American Legislators' Association,  
850 East 58th Street, Chicago.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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# DIVISION V

## MUNICIPAL GOVERNMENT

### NEW YORK CITY AFFAIRS

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#### CIVILIAN PROTECTION

The entry of the United States into the war in December, 1941 focused the attention of New York, city and state, on questions of civilian protection. Before the end of 1942 the war had taken a sufficiently favorable turn to indicate enemy bombing of New York as only a remote possibility, but in the winter and spring of 1942 nearly everyone expected at least a nuisance raid or two for psychological effect, and the preparations already begun before war broke were elaborately developed.

In February Mayor LaGuardia resigned as head of the national Office of Civilian Defense. His frequent absences from the city at a critical time had aroused unfavorable comment and it became obvious that the special wartime problems of the nation's greatest city deserved his full attention. He remained as head of civilian defense affairs in New York City and gave them a great deal of personal attention.

New York City was originally set up as a separate civilian defense area on an equal footing with the states, but the New York Legislature of 1942 exercised its prerogatives by passing a statewide War Emergency Act with a state War Council and a state Director of Civilian Protection authorized to give orders to city and county directors in emergencies. Governor Lehman and others urged that every mayor be required to appoint

a full-time city director of civilian protection to supervise the city's defense preparations, but the Legislature yielded to the pleas of Mayor LaGuardia and other mayors and permitted the mayor of any city to act as director of civilian protection himself if he preferred.

The New York City defense organization was developed largely under the regular city departments. Volunteer air raid wardens were organized under the Police Department; auxiliary firemen under the Fire Department; emergency repair, demolition, and decontamination squads under the Department of Public Works, Department of Water Supply, Gas, and Electricity, and the five borough presidents, with the Public Works Commissioner, Major Irving V. A. Huie, in charge; first aid and hospital care under the Department of Hospitals and the Red Cross; and emergency relief services under the Department of Welfare. The emergency repair plans were organized in cooperation with the electricity, gas and telephone companies, and private truckmen.

These services established centralized headquarters in seven administrative areas—two each in Brooklyn and Manhattan and one each in Queens, the Bronx, and Richmond (Staten Island). The subdivisions in the several services, however, were not correlated. In case of a raid it was planned that word of the needs

of the damaged areas should be telephoned immediately to the borough or regional headquarters by the air raid wardens and the different services would then spring into appropriate action independently.

### THE VOLUNTEER SERVICES

A huge army of volunteers was mobilized during the year—160,000 air wardens, 52,909 auxiliary firemen, 8,200 report center clerks, and many other volunteers for miscellaneous services.

These volunteers were largely recruited through Civilian Defense Volunteer Offices established with separate headquarters and a man and woman appointed by the Mayor as volunteer co-directors in each borough. Some city-wide direction was given by a city C.D.V. Office headed first by Mrs. Winthrop W. Aldrich and later by James G. Blaine, with Mrs. Aldrich's assistance.

This recruiting service was organized on a volunteer basis from top to bottom. It had no personnel appropriation even for the large amount of clerical work needed. This presented difficult problems of continuity and interfered seriously with the efficiency of the work, but a number of the directors and others contributed able service and devoted full-time and overtime work, and much was accomplished in spite of the handicaps. Some help was given by part-time loans of personnel from the city administration, but this was necessarily limited because most departments were short-handed for their own enlarged work.

An important development in the C.D.V.O. organization was the establishment of branch offices throughout the city so that citizens could volunteer without traveling long distances to borough headquarters. The C.D.V.O. supplied recruits not only for the public protective services but for numerous approved private activities, such as the training of nurses' aids, first aid and nutrition courses, and the Red Cross.

In addition to the protective serv-

ices under the city departments the Mayor organized a City Patrol Corps, composed of both men and women, whose members were assigned to guard vital spots. A recruiting letter for this corps was sent to all young men who had been given deferred status in the draft.

### AIR RAID PRECAUTIONS

A local law was passed by the City Council requiring all buildings to be equipped with specified fire-fighting equipment, including hose or stirrup pumps, water and sand, to be kept easily accessible to roofs and hallways in case of a raid with incendiary bombs. The fire commissioner was put in charge of enforcement and given authority to permit satisfactory substitutes whenever the required materials were not available in sufficient quantities because of priorities.

Air raid sirens were installed in all parts of the city so that one or more could be heard from all points. The sirens were blown at noon every Saturday as a test and to accustom the people to the sound of the alert and the all-clear.

Also a number of practice alerts and blackouts were held, both with and without advance notice. Because a master switch arrangement would have been very expensive to install, arrangements were made for air raid wardens to turn the street lights off and on individually during blackouts. Many apartment, office, and other buildings, and the schools and colleges organized their own air raid squads with roof fire spotters and persons in charge of particular floors and halls, thus augmenting the official air raid warden force by many thousands.

A regular nightly dimout was installed to protect ships off shore from the dangers of sky-glow against which they might be easy targets for prowling submarines. This dimout brought special problems of its own. The police had to cope with hold-ups and "muggings" even in areas usually considered safe at all hours. Though many fewer cars were on the streets because of the shortage of gasoline, night accidents in proportion shot up



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alarmingly. Lights in the city-run elevated and subway trains were so dimmed that a large part of the populace was suffering from eye strain in reading newspapers until it was determined that more light could be given without violating army regulations.

Mayor LaGuardia went on the air regularly every Sunday afternoon to discuss war and defense problems with the people over the city radio station, WNYC. He used these talks frequently to broadcast messages on other matters. The newspapers gave the broadcasts good publicity even though, during most of the year, the Mayor was not talking to newspaper reporters, being irked by newspaper presentations of facts and opinions at variance with some of his policies.

### WAR UNEMPLOYMENT AND RELIEF

In spite of the acute nationwide need of manpower to meet the challenge of war production New York City continued to have an unemployment problem throughout the year. A large part of the city's industry was not as readily converted into war activities as in most other cities. Consequently, though a few of the nation's greatest war works were operating within the metropolitan area, many people were forced out of employment by the shift to war economy without being able immediately to find new jobs.

The Mayor and the City Commerce Department, not a regular department set up in the charter but a special recent creation of the Mayor, devoted a great deal of effort to obtaining war contracts for the city, with some success toward the end of the year. Governor-elect Dewey also appointed a special committee to study the situation before he took office.

The relief load, however, declined to a new low of 85,612 cases, in contrast to the year 1935 when a full quarter of the city's population was dependent on public assistance for the necessities of life. This bore out

Welfare Commissioner Hodson's contention that most of those on relief were self-respecting citizens who would take any reasonable opportunity to be self-supporting.

By gradually remedying deficiencies in various parts of the relief allowances as the case load dropped Commissioner Hodson finally succeeded in bringing relief standards up to the point where with prudent management they were fully adequate for the maintenance of health and efficiency. It was probably the first time this had been true in any large American city. This satisfactory condition was partly dependent, however, on the city-wide use of Federal food stamps for the purchase of surplus foods, which made relief food allowances go half again as far. These stamps were to be discontinued by the Federal Government on March 1, 1943.

The city was helped to get some direct benefit from its relief expenditures by a new law passed at Albany permitting local work relief projects to be supported, like home relief, with 40 per cent of state aid. The operation of this law presented a complicated administrative problem, since those employed had to be paid at W.P.A. rates and their hours of work limited so that they earned only what they would have received on home relief. Nevertheless, no less than 18,060 were given useful employment under the law. It gave the city an opportunity to use the services of many able-bodied aliens who were not eligible for public work earlier because of the citizenship requirements of W.P.A.

The local work relief law was an emergency measure effective only to July 1, 1943. If it is renewed, as expected, it should be very useful when the Works Progress Administration is liquidated during the coming year. New York City has profited more extensively than most cities by W.P.A. services, which have supplemented budget- and personnel-restricted staffs in many city departments. Announcement late in 1942 that the W.P.A. was about to be abolished

presented the city with a serious problem.

### FINANCIAL CHANGES

The declining relief burden brought with it a significant change in the city's taxing powers and financial procedure. Under the state constitution as revised in 1938 New York State cities can exercise only such powers of taxation, aside from the basic real estate tax, as are specifically given them by the legislature. Hitherto all cities have been confined to the real estate tax except for specific purposes. Certain taxes have been permitted to finance the cities' share of carrying charges in public housing projects—New York City using a small tax on the occupancy of business premises for this purpose—and a one per cent tax has been permitted on the gross earnings of public utilities to help finance relief. In addition, New York City has been given the right to use, and has been using, several other taxes, notably a sales tax on everything except food, to finance relief.

As the relief burden started down a surplus was accumulated from these taxes, and in 1941 the city was allowed to use part of it on the related expenses of old age assistance. In 1942, though the rates it might use in its various taxes were strictly limited, the city was granted the right for the first time to put its money from taxes not levied on real estate into its general fund. Other cities in the state were permitted to do the same thing with their utility taxes.

This change, which may well be the beginning of an important new policy permitting cities to shift some of their general tax burdens from real estate or to augment the present real estate taxes to finance larger services, was put through completely on one day, March 31, 1942. On that day, the day before Mayor LaGuardia had to submit his budget for the fiscal year July 1, 1942—June 30, 1943, the appropriate tax bills were amended to inaugurate the new policy, passed in both houses of the legislature under one of the Governor's rarely given

emergency messages dispensing with the usual wait of three days after bills are printed in final form, and signed. This was, perhaps, the most striking example of a recent noticeable tendency on the part of the city administration to put through important changes suddenly by surprise before any opposition has a chance to mobilize.

Along with the change of taxing power came a related change in budget procedure. Since relief expenses have been financed out of a separate fund they had not hitherto been included in the city budget. The board of estimate met from time to time without advance notice or public hearing and appropriated millions of dollars to cover relief needs for a period of a few months. With the transfer of the special taxes to the general fund the city was required to finance relief out of the general fund and to include it in the expense budget. Henceforth, therefore, relief expenditures will be estimated for a year in advance and subjected to criticism and suggestions in public hearings like other expenditures of the city.

### BUDGET PROBLEMS

The right to use special taxes for general purposes was granted in recognition of the very difficult budgeting problem with which the city was faced. The real estate levy for ordinary purposes, aside from the carrying charges on the bonded debt and from special assessments, is limited to two per cent of the average assessed valuation of property in the city for the last five years. Assessments have been gradually coming down to bring them more nearly into line with actual values since the depression, and this, together with the withdrawal of certain state collected taxes formerly shared with the city, has constricted the city's spending power with little reduction, aside from relief, in its need for spending. Pension payments, a contractual obligation under the 1938 state constitution, are rising each year and many

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mandatory expenditures, especially for courts and schools, are not open to reduction without state permission. The use of the relief revenue surplus for general purposes was the only easy way to relieve the strain.

The state also helped the city to the extent of \$900,000 by transferring to itself the support of all armories, both in New York City and elsewhere, but Mayor LaGuardia still felt compelled to make drastic cuts. Some of these have been criticized as poor economy, notably the closing of the Townsend Harris High School, a famous school for specially gifted pupils connected with City College, and the dismissal of the whole staff of 17 special investigators in the Juvenile Aid Bureau (formerly the Crime Prevention Bureau) in the Police Department. With the growth of juvenile delinquency because of war conditions late in the year a concerted civic drive developed to restore this staff of investigators and to increase the probation staffs of the courts and the after-school recreation facilities of the schools.

A joint multi-partisan board of citizens and city officials was authorized by Mayor LaGuardia on May 1, 1942 to make a study of New York City's finances and tax problems and make a report and recommendations on its findings. The Mayor outlined the problems that would have to be taken up immediately and divided the board accordingly: (1) Real estate taxation is one of the sore spots of the city government and real estate interests insist that property is overassessed as a means of sustaining the city's financial structure; (2) New sources of revenue; (3) Fiscal relations between the city and state. Relations are now on an unsatisfactory year-to-year basis. What the board should consider, the Mayor said, is which of the various year-to-year provisions and expedients might be made permanent; (4) City expenditures; (5) Debt; (6) Pensions; (7) Federal relations; and (8) Fiscal administration. The various sections of this board are expected to report during 1943.

### POST-WAR PLANNING

The city's credit continued good, and its borrowing margin available within the ten per cent debt limit continued to increase, largely because of the practical cessation of public construction due to war priorities.

For the third successive year the Mayor fixed a limit of one dollar in the capital budget, adopted for the calendar year 1943, for new construction other than that previously authorized and amounts substituted for amounts previously authorized.

The capital budget for 1942 was amended during the year to provide for an extensive program of post-war planning and this was largely expanded in the capital budget for 1943. The capital budget is not an actual appropriation but a plan limiting appropriations by the Board of Estimate for capital purposes during the year. Usually some of the items included are not reached and are repeated by the City Planning Commission in the capital budget it presents to the Board of Estimate and the Council for the following year. The planning program authorized in the capital budget during 1942 calls for the expenditure of \$21,611,575 in the drawing of plans alone, involving an eventual expenditure after the war of \$628,005,182. The 1943 capital budget contemplates an additional \$4,000,000 of planning funds, increasing the total completion costs, if the whole program should be carried out, to \$680,000,000.

The formulation of these plans was greatly influenced by Park Commissioner Robert Moses, who was added to the City Planning Commission by appointment of Mayor LaGuardia in 1941 and who has challenging ideas for the further expansion of the parkways, highways, and parks for which he is already so famous.

### LAND USE PLAN ABANDONED

Mr. Moses' influence too was largely responsible for a major change in city planning policy. Under the leadership of the former President of the City Planning Commission, Rexford Guy Tugwell, who had resigned



during 1941 to become Governor of Puerto Rico, the Commission had developed an ambitious tentative master plan for future land use, looking ahead 25 and 50 years and picturing a more orderly and integrated city with manufacturing, industrial, and residential areas in more logical locations, a number of largely self-contained communities, and large "green belts" for recreation and open spaces separating these communities and skirting many of the water fronts. This was not to be something immediately effective in any way, but a picture into which the city was to grow gradually so far as practicable by changes in zoning and the development of public enterprises. It was strenuously objected to by many real estate and business interests, however, as picturing for their particular neighborhoods a future at variance with existing conditions and in their judgment too visionary to be practical. They pointed out that no definite steps were outlined by which the goals were to be reached.

One of its most caustic critics was Mr. Moses. He had been in office only a few months when the Commission announced that the plan had been entirely abandoned. Not only that, but the Commission appeared to abandon all thoughts of a substitute plan. It announced:

"After careful study and consideration of all aspects of this matter, the Commission is opposed to the adoption of general plans of land use which suggested to some persons drastic and revolutionary changes in ownership, use and taxation of private property where no public advantage from such changes can be adequately substantiated. The Commission also believes that public understanding of municipal planning is not clarified by the introduction of certain terms which, while comprehended by some persons, have not as yet any generally accepted usage sufficient to remove implications which might serve to destroy economic values and militate against future developments.

"For several months past, the staff has been working on comprehensive

studies of the existing zoning maps and, as a result, major changes in the Use District Map have already been effected in the Borough of Richmond. The result has indicated that this is a very satisfactory method of developing desired improvements in land use indications."

### THE BATTERY PARK CONTROVERSY

A smaller planning change engineered by Mr. Moses during the year was for the re-development of Battery Park at the lower tip of Manhattan Island, including the demolition of the Aquarium Building, old Fort Clinton. This provoked a storm of controversy throughout the year, with Mr. Moses keeping the upper hand, though at the end of the year the matter was still in the courts and the building still standing.

The famous collection of live fish in the Aquarium had been dispersed the year before, against considerable public protest, on the ground that the building would have to be closed in connection with the work on the Brooklyn-Battery vehicular tunnel. This work got well under way during the year, with the environs of the closed building still available to the public from the river side, and it became obvious that the building would not have to be demolished as Mr. Moses proposed, unless its demolition were thought desirable for reasons unconnected with the tunnel. Antiquarians proposed that the building be stripped of its commonplace exterior and restored to the condition of the fort of revolutionary days.

Objection was made also to other features of the Moses plan, particularly a double row of tall pylons, some to serve as ventilators for the tunnel and some simply to complete the avenue. The Fine Arts Federation held a prize contest for alternative developments of Battery Park which would keep the Fort Clinton building, and a number of attractive plans were submitted and made public.

The Moses plan had its supporters also, however, and the Board of Esti-



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mate, with Comptroller McGoldrick and Borough President Nathan of Manhattan voting in the negative, voted to approve it without change and to authorize the demolition of the Aquarium. When the regularity of the first vote was challenged, the vote was repeated some weeks later. Court action to try to restrain the city from destroying an historic asset found no support from judges of the Supreme Court and the Appellate Division.

### THE MOSES-HUIE CASE

Early in the year Mayor LaGuardia filled a vacancy in the City Planning Commission by appointing a second of his Commissioners, Major Huie of the Department of Public Works. It began to look as if the Mayor intended to make the City Planning Commission a mere arm of the current city administration, and the Citizens Union promptly brought suit through its chairman, Richard S. Childs, to have the offices of city department head and City Planning Commissioner held incompatible.

The Citizens Union agreed that both Mr. Moses and Major Huie are very able public servants. It was pointed out, however, that all department heads, particularly the Park Commissioner, submit projects from time to time to the City Planning Commission for inclusion in the capital budget and the six-year capital program, which the City Planning Commission prepares each year and which the Board of Estimate can disregard in its choice of projects only by a three-quarters vote. If certain department heads sit on the City Planning Commission it tends to give their projects an advantage over those submitted by other departments and to result in a one-sided development of the city at the expense of some of its needs.

It was contended also that department heads could not give full time to their work, as required by the city charter, if they also undertook the important and time-consuming duties of the City Planning Commission. This point appeared to be conceded

in practice by the passage of a local law permitting Mr. Moses to be represented on the Planning Commission by a deputy.

It was further contended that, since the charter set up the City Planning Commission with only one *ex-officio* member, the Chief Engineer of the Board of Estimate, made the other members removable only for serious misconduct in office and after charges and a public hearing, and gave them eight-year overlapping terms, it was obviously intended to make the Commission independent of the administration. This it could hardly be if some of its members were department heads appointed by the Mayor and holding their department positions and their salaries at the Mayor's pleasure.

Although these were the substantial reasons for the suit, its disposition hinged on the technical question whether a City Planning Commissionership was a paid position if the Commissioner waived his salary for it as Commissioners Moses and Huie had done. The city charter contains permission for department heads to hold unpaid positions in addition to their regular work, as a specific exception to the general prohibition against holding dual positions. A majority of the judges of the Appellate Division held that the Moses and Huie jobs were unpaid since the Board of Estimate had voted them no salaries as members of the City Planning Commission. Presiding Justice Martin dissented, holding that a position which was normally paid and for which a salary was obviously contemplated though not required under the terms of the charter, was to be classified as a paid position even though a particular incumbent was not paid. At the end of the year the case was pending before the Court of Appeals.

### THE KERN-SAYRE CASE

Another important case involving somewhat similar questions was carried through the courts during the year and finally decided in January 1943. In the spring of 1942 the Civil

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Service Commission became involved in a controversy with the Corporation Counsel who is supposed to act as counsel for all agencies of the city but is himself appointed by the Mayor and removable at the Mayor's pleasure. The Civil Service Commission is also appointed by the Mayor but its members serve for six-year overlapping terms, can not all belong to the Mayor's political party, and are removable only for cause after a public hearing. They are supposed to enforce the state Civil Service Law even against the Mayor and are removable by the State Civil Service Commission if they fail to do so.

In several cases, according to affidavits filed in court, Mayor LaGuardia had attempted to order the Commission to do things which they considered illegal, and they had refused. When a case arose in court in which the Municipal and State Civil Service Commissions gave different interpretations to the law, the Mayor directed the Corporation Counsel to advise the court to rule against the Municipal Commission and he did so with obvious enthusiasm. The court followed the Corporation Counsel's advice, pointing out that under the charter he was the Municipal Commission's legal representative. Angered, the Commission issued a newspaper statement stating its position and impugning the Corporation Counsel's motives. The Mayor promptly suspended the three members of the Commission, issuing general charges of insubordination and unbecoming official conduct which he made specific by confining it to the newspaper release only when the members appeared at the hearing on the charges. Pending the hearing he kept them out of their offices, preventing them from gathering material for their defense.

At the hearing Commissioner Ferdinand Q. Morton explained that he had been ill at the time the release was issued and was reinstated. Paul J. Kern, president of the Commission, and Commissioner Wallace S. Sayre defended their position and were subsequently removed from office. They

brought suit for reinstatement and carried the case to the Court of Appeals.

Mr. Kern had been the Mayor's legal adviser both in Congress and in the city administration before his appointment to the Civil Service Commission. Dr. Sayre had been professor of government at New York University and has always stood very high in civic and academic circles. He was the author of the scholarly review of New York City Affairs in *THE AMERICAN YEAR BOOK* for 1941.

Under the Kern-Sayre-Morton regime the administration of the merit system in New York City had made rapid strides forward in civil service coverage, recruiting methods, in-service training, and the technique of examinations, and stood in the very forefront of American civil service regimes. It had often been referred to, by the Mayor as well as by others, as one of the finest fruits of the Fusion victory. Recently Mr. Kern had been under fire for alleged radical leanings and associations and it may be that the Mayor had come to consider him a political liability, but the dismissals came as a severe shock to most of the civic forces of the city.

The case which furnished the background for the dismissals was of itself of some civic interest. In November, 1941, under authority of the county home rule amendment of the state constitution, the people of the city had given overwhelming approval to a charter amendment which abolished the county Sheriffs and Registers, with their host of exempt political appointees, and transferred most of their functions to a civil service City Sheriff and a civil service City Register, who took office Jan. 1, 1942, at an annual saving to the city of approximately \$500,000. The amendment provided that county employees in the competitive class of the civil service should be transferred to corresponding jobs under the city government and that only such employees should be transferred. Between election day and the first of January, when the amendment was

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to take effect, the State Civil Service Commission and the Governor approved a transfer of four experienced county employees to the competitive class without examination so that they would not lose their jobs. The Municipal Civil Service Commission refused to recognize the transfer, saying that it defeated the obvious purpose of the amendment. This was the issue which the Commission was trying to test in court and on which the Corporation Counsel and the Mayor denied them assistance.

Mr. Kern and Dr. Sayre were supported in their suit for reinstatement by the Citizens Union, the League of Women Voters, the Women's City Club, the City Affairs Committee, and the Community Councils, which filed a joint brief as *amici curiae* in the Appellate Division and again in the Court of Appeals. They contended that if so trivial a pretext were recognized as a valid reason for removal there would be little left of the independence of civil service commissions and that any patronage-minded mayor in the future, either in New York City or elsewhere in the state, would be in a position to pervert the civil service regulations to his own purposes.

The Mayor was represented by Former Corporation Counsel Paul Windels, who claimed that the slur on his successor was a serious breach of official propriety well deserving of dismissal. The Mayor was also supported in court by the Civil Service Forum, an organization of civil service employees which had been consistently hostile to the Commission.

The Mayor was upheld both by the Appellate Division, in which the case was first argued, and in the Court of Appeals. In the former court Presiding Justice Martin filed a strong dissenting opinion, but the Court of Appeals affirmed the decision of the majority without opinion.

As successor to President Kern the Mayor appointed Harry W. Marsh, former civic director of the City Club and former Deputy Commissioner of Welfare, who resigned as Personnel Director of the State of

Connecticut to take the position. As successor to Dr. Sayre he appointed Mrs. Bruce Bromley, who also enjoyed a high civic reputation.

### CHANGES IN OFFICE

The Mayor lost several other members of his official family during the year. Corporation Counsel William C. Chanler and his first deputy, Frederick v. P. Bryan, both went into the armed forces. Welfare Commissioner William Hodson took a leave of absence to take charge of the United States Government's relief work in North Africa under former Governor Lehman and was killed in a tragic airplane accident on his way to his new post in January, 1943. Budget Director Kenneth Dayton resigned to take another position under Governor Lehman in Washington.

Health Commissioner John L. Rice resigned during the year because of ill health and was replaced by Dr. Ernest L. Stebbins. Later in the year Dr. Stebbins stepped into the limelight by calling attention to the growing problem of venereal disease among boys and girls of high school age and arranging for classes in social hygiene to be conducted by his department in certain high schools, out of school hours, a step from which the Board of Education was careful to dissociate itself officially.

### RESIGNATION OF MARKETS COMMISSIONER MORGAN

At the beginning of 1942 Markets Commissioner William Fellowes Morgan, Jr., one of the Mayor's first appointees in his first administration who had established a sure reputation with the public by developing the city's public markets and by breaking up rackets connected with them, resigned in protest against the Mayor's treatment of him. He said the Mayor had tried to force on him what he considered an unsuitable appointment and had not responded to his repeated requests for an opportunity to discuss the matter. The Mayor accepted the resignation and appointed Daniel P. Woolley as Mr.



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Morgan's successor. He intimated publicly that Mr. Morgan's department was under investigation by the Commissioner of Investigation for irregularities.

It developed that the matters being investigated concerned a bureau headed by one Alexander Pisciotta who had been appointed by Mr. Morgan on the Mayor's recommendation and who had just been appointed a Magistrate by the Mayor, while the investigation was in progress and one week before he was called up for service as a captain in the army. Since he had been a reserve officer Captain Pisciotta appeared to be entitled by law on the strength of this elevation to the difference between his salary as Magistrate and as a captain in the army at city expense during all the time he was in the army, but after public protest he agreed voluntarily to accept the difference between his smaller former salary in the Markets Department and his captain's salary instead. The result of the Commissioner of Investigation's probe was never made public and a committee of eminent citizens appointed by the Mayor to investigate the whole case, including Mr. Pisciotta's fitness to serve as a Magistrate, decided to adjourn the matter until after the war.

### THE FLYNN PAVING BLOCK CASE

Just before President Kern was removed from the Civil Service Commission he had been calling witnesses on the use of city paving blocks, city workmen, and city station wagons and tools to pave a courtyard on a Lake Mahopac estate of Edward J. Flynn, Democratic leader of the Bronx and Democratic National Chairman. The work was done by workmen under the jurisdiction of Borough Works Commissioner Robert L. Moran, an appointee of the Bronx Borough President, who is not under the control of the Mayor.

Mr. Kern had discovered the episode and called it to the Mayor's attention in November, 1941. The

Mayor had referred it to his Commissioner of Investigation, William B. Herlands, and the latter had collected considerable evidence, but decided to keep it quiet until spring when there appeared reason to think the work would be resumed. Hearing nothing further about it Mr. Kern opened his own investigation, which was within his province since the propriety of city payrolls which the Civil Service Commission has to certify was involved. After his removal Mr. Kern made public the evidence he had gathered and charged that his pushing of a probe involving the Democratic leader was the real reason for his dismissal.

An investigation was ordered by the Bronx grand jury and both Mr. Herlands and Mr. Kern turned over their evidence to that body. The grand jury worked under the guidance of District Attorney Samuel J. Foley, a close political and personal associate of Mr. Flynn. Governor Lehman refused to supersede Mr. Foley when the Citizens Union asked him to do so because of this association.

The grand jury, after receiving much testimony, made a presentment in which it declared that the offense charged had been committed and criticized the Borough President's office for a lax procedure which permitted such things to happen, but brought no indictments and held no one responsible beyond saying that the work had been done under a foreman working under the direction of Commissioner Moran. On the receiving end of the deal it held no one responsible and specifically exonerated Mr. Flynn.

This report proved highly unconvincing and unsatisfactory to a large part of the public. Efforts by civic groups to get the case reopened through the Governor, the Mayor, the Bronx Borough President, the District Attorney of Putnam County, where Lake Mahopac is situated, and the courts were all unavailing, but it undoubtedly contributed to the success of the Republican candidate for Governor at the fall election.



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### THE MORAN AND HINES PENSION CASES

Shortly after the grand jury presentment was made Commissioner Moran applied for retirement and was retired by the Board of Estimate on a full pension on the theory that he was not under official charges and the board had no right to deny him a pension for which he had met the technical requirements. Civic groups contended to no avail that a pension paid out of public funds, as distinguished from the annuity contributed out of wages by the employee himself, was a reward for faithful service and that the Board should meet its responsibility as trustees of the City Employees' Retirement System by investigating when a member of the system retires under fire and denying him a pension if he appears unworthy of it.

Exactly this view was taken by the Board, however, in another case which arose late in the year. Commissioner Herlands issued a report on conditions in the marriage license bureau of the City Clerk's office, in which he charged that four employees had been soliciting and taking gratuities from couples who came to their office to be married. This is a penal offense under the city charter and state law and the four employees promptly resigned rather than face prosecution. One of them, Philip A. Hines, brother of the convicted former Democratic leader, applied for a pension but withdrew his application temporarily when it was found that he had resigned too promptly to meet the technical requirement of 30 days in office after an application is made. The Mayor then put him back on the city payroll so that he could meet this requirement. It was explained, when the re-employment was discovered, that the Mayor had persuaded Hines to resign voluntarily to avoid a court fight of doubtful outcome and felt it was the right thing, in the circumstances, to put Hines back in a position to put in his claim for the pension he unknowingly surrendered by so doing. No intimation was given, however, that the Mayor

would not favor actually granting the pension without a contest when it came up, as he had in the Moran case. After vigorous protest against this prospect by the newspapers and civic groups and an intimation that the Civil Service Reform Association, the Citizens Budget Association and the Citizens Union were ready to go to court if the pension were granted, the application came up again in January 1943 and was rejected. Deputy Mayor McGahen (for the Mayor), Comptroller McGoldrick, Council President Morris, and Borough President Nathan voted in the negative and the other members of the Board refrained from voting.

Just before the vote a statement was presented from a committee composed of former Federal Judge Thomas D. Thacher (also former Solicitor General of the United States), former Supreme Court Justice Edward J. McGoldrick, and City Actuary George B. Buck, whom the Mayor had asked to investigate the case. The committee held that the Board of Estimate did have discretion in the case and that Mr. Hines had been put in a position where if he thought the Board abused its discretion he could fight for what he considered his rights in court.

### THE ROGALIN CASE

At the time that the Hines case was up for discussion the Corporation Counsel was in court on another case (Matter of Rogalin), in which the city held that the Teachers' Retirement System did not have to grant a pension to a principal who resigned under charges. Under the law the right to exercise discretion was less clear in the Teachers' Retirement System than in the City Employees' System and the Appellate Division ruled against the city, but the Court of Appeals gave permission to appeal. At this writing the final decision has not been rendered.

### THE FALL ELECTION

Except for a few judicial posts and one county post (the District Attor-

ney of Queens County), the fall election affected the city government only indirectly. It was an important election for the city, however, as the state and national governments both have an important influence on city affairs.

The Republican candidate for Governor, former New York District Attorney Thomas E. Dewey, carried the state over Attorney-General John J. Bennett, Democrat, by an overwhelming plurality of over 600,000. He carried in with him the Republican candidates for Lieutenant-Governor (Thomas W. Wallace of Schenectady), Comptroller (Frank C. Moore of Kenmore, organizer and secretary of the State Association of Towns), and Attorney-General (Nathaniel L. Goldstein of Brooklyn), even though Mr. Wallace and Mr. Moore were opposed by incumbents with American Labor Party endorsement.

At the same time the Republicans increased their majorities in both houses of the legislature, winning several new places in New York City, although the Democrats maintained topheavy legislative majorities, out of all proportion to their votes, in all boroughs except Richmond.

In the crucial Congressional elections New York City went almost solidly Democratic as usual, Congressmen Joseph Clark Baldwin, Republican, and Vito Marcantonio, American Labor, both of Manhattan, being the only candidates of the opposition to survive out of a total of 23 elected from city districts. Congressman Matthew J. Merritt of Queens was also re-elected as one of the two Congressmen-at-large, being the only Democrat elected on a statewide vote.

The Congressional reapportionment voted by the 1942 Legislature does not take effect until 1944. The companion proposal for reapportionment of the Legislature failed of passage. Congressmen were, therefore, elected from districts drawn in 1911 and State Senators and Assemblymen from districts drawn in 1917.

### SCHOOL AFFAIRS

The most hotly contested election in the city was that of State Senator Frederic R. Coudert, Jr., Manhattan Republican, who was re-elected by a good majority in spite of a violent attack based on his chairmanship of a subcommittee of the legislature which has been investigating the New York City schools. This committee was given a mandate to investigate the finances, structure and operating methods of the school system and also to investigate subversive activities among teachers and students. The first year and a half of its work had been devoted entirely to subversive activities, and its report had led to the dismissal by the Board of Education and the Board of Higher Education of a number of teachers and administrative officers in the city-run schools and colleges who were held guilty of active Communist propaganda and of perjuring themselves in an effort to escape detection. The committee's activities were widely denounced as an un-American witch hunt and as widely applauded as a needed protection of American ideals against the infiltration of foreign ideologies.

At the time the election contest was going on the committee had completed the subversive activity investigation and was already well advanced in the less spectacular part of the work, to which little publicity had yet been given. Dr. George D. Strayer, professor of educational administration and former director of field studies at Teachers College, Columbia, was engaged to head the investigation of school financial problems and administrative arrangements. He was given a free hand to employ and direct his own staff and called in expert specialists from various parts of the country. An extensive report with far-reaching recommendations is expected in 1943.

The four city colleges—City College, Hunter, Brooklyn, and Queens—and the vast city school system made extensive changes in the curriculum during the year to adapt themselves to war conditions. A great deal of

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emphasis was given to appropriate vocational education. A plan for warning and action in the schools and colleges in case of enemy raids was carefully developed and practiced.

The school population continued to drop and with it the amount of state aid, which under the "Friedsam formula" now in force is partly based on school attendance. At one time it appeared that a great many teachers would have to be laid off, but by leaving vacancies unfilled and getting permission from the Legislature to transfer competent teachers to subjects outside the particular subjects for which they were licensed, this was finally avoided except in a few cases. A proposal by the city administration to help meet the situation by gradual lowering of the compulsory retirement age from 70 to 65 was defeated in the Legislature by the efforts of teachers' representatives, but is likely to come up again.

The Board of Education called on the candidates for Governor and the Legislature to agree to peg state aid for 1943 at the 1942 figure, since the schools were being asked to assume new responsibilities in connection with the war and expenses could not well be reduced in proportion to the decreasing enrollment.

During the year Superintendent of Schools Harold G. Campbell died after eighteen years of continuous service as Associate Superintendent, Deputy Superintendent and (for the last eight years) Superintendent. He was replaced by Associate Superintendent John E. Wade.

Dr. Wade and the Board of Education announced that efforts would be made during the coming year to eliminate classes of over 40 so far as possible and to increase the recreational and educational facilities of the schools out of regular school hours to help cope with the growing problem of wartime juvenile delinquency and to give the community the full benefit of school facilities during the emergency.

### PUBLIC HOUSING

Because of war material priorities

the large program of public housing on which the City Housing Authority had embarked with Federal, State, and city aid was temporarily brought to a standstill. However, Fort Greene Houses in Brooklyn, which will probably be the largest low rent public housing development in the world, were opened without all units completed as a defense housing project to house war workers in the Brooklyn Navy Yard at self-supporting rentals during the emergency and to be converted to low rent housing for families of low income after the war. This project will eventually house 3,501 families, priorities being in sight for 2,635 before the end of the war.

New York City's \$100,000,000 share of the \$150,000,000 of state money authorized by the legislature to be borrowed by the state and lent to housing authorities and municipalities for public housing projects had been entirely used or earmarked for approved projects before the end of the year. Just before retiring, State Housing Commissioner Edward Weinfeld issued a plea that the Legislature authorize the other \$150,000,000 authorized by the people in adopting the housing constitutional amendment in 1938, so that plans can proceed for an enlarged housing program to be put into effect as soon as the war is over.

### THE FIVE-CENT FARE QUESTION

Because of the city's budgeting problem there was a great deal of discussion early in 1942 of the possibility of raising the five-cent fare on the city's subway and elevated lines. A special committee headed by Former Corporation Counsel Paul Windels made a report in which it was emphasized that the recently unified transit system, though easily meeting its current operating expenses, was falling far short of supporting its debt burden and that "in the past 22 years the city has spent \$665,000,000 to make up deficits in the operation of the rapid transit lines." It recommended a rate of 7½ cents a ride (two for 15 cents) for coins purchased



in quantity, with ten cents for a single ride.

The Citizens Union followed with a report of a special committee in which it was pointed out that the short-haul traffic more than paid its way at five cents, that much of this profitable traffic might easily fall away if the fare was raised, and that the experience of other cities made it seem very doubtful whether the city would actually gain in income from the proposed rise in fares. Others contended that it was only proper for real estate to bear part of the burden of the subways, as of the streets and other highways, since many real estate values are dependent on subway connections.

Under a new law passed in 1940 the city had acquired the right to raise fares at any time by action of the Board of Estimate, also the right to continue to subsidize the subways indefinitely from taxation if it wished, a right which it previously had only for a limited number of years. Fearing that the Windels report had been the build-up for an administration move to increase fares, several legislators introduced bills at Albany to prevent any increase without approval of the people at a referendum. One of these was finally passed in modified form. If the Board of Estimate votes to change fares, the change is not effective for 30 days, during which time the City Council can make the change subject to a referendum if it thinks best.

## TRANSIT LABOR RELATIONS

In the fall of 1942 the transit labor situation, which had threatened a tie-up of the city the year before, flared up again. Although wage adjustments totaling \$6,000,000 had been granted to transit workers in 1941, the Transport Workers' Union demanded a general 15 per cent increase to correspond to the increased cost of living. Similar demands were being made by other city workers but in less peremptory form. The Mayor announced that further transit wage adjustments totaling \$1,000,000 were in prospect, but that the city simply

could not afford to meet the full demand. A substantial increase had been promised to the poorly paid hospital workers to induce them to stay in city employ, and this was financed out of money which had been saved by a general policy of leaving vacancies in all departments unfilled, but to make such a raise general would have presented the city with a staggering financial problem.

In addition to the wage rise the Transport Workers demanded recognition of the Union as representative of the transit workers, aid from the city in the "voluntary" maintenance of union membership, and joint management-labor committees in the various shops and offices for the adjustment of grievances. These further demands the Board of Transportation and the Mayor would not entertain. The union took them to the War Labor Board along with the wage demand, but the latter decided it did not have jurisdiction to control units of government.

Union leaders at first talked threateningly but then decided on a peaceful drive for arbitration. The Mayor pointed out that no binding arbitration was possible, since the whole finances of the city and all its services were involved, but appointed an investigating committee of distinguished citizens, headed by Dean Ignatius M. Wilkinson of the Fordham Law School, noted for their knowledge of the problems involved and for their fairmindedness. This eased the tension for the time being.

## POWER PLANT PURCHASE PROPOSED

In the fall of 1942 an opportunity developed for the city to purchase the plant of the Staten Island Edison Company, the private company which serves all of Staten Island. The company had been prosperous, but it was part of a holding company complex which the S.E.C. had ordered broken up and it was up for sale under the control of a Federal judge as receiver. The Mayor and Comptroller recommended the purchase as a means of controlling service, reducing rates and



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exercising a restraining influence on the Consolidated Edison Company, which serves most of the rest of the city with electricity. Council President Newbold Morris introduced the necessary local law, fixing a top price originally of \$16,500,000, later lowered to \$14,500,000, and an estimated price of \$14,000,000.

The purchase was opposed by an impressive array of business and real estate organizations, most of whom wanted no extension of municipal ownership under any circumstances. There was considerable civic and labor support, and the purchase was strongly recommended by the State Power Authority. A number of those who favored the purchase at a proper price thought the price was too high and recommended a downward

amendment. The matter was still under consideration in the Council at the end of the year. If a purchase bill is passed, it will have to go to the people for approval at a referendum before the deal can be closed.

### AN EXECUTIVE MANSION

One item of some interest in the story of the year was the establishment of an official residence for the Mayor. Gracie Mansion, a museum in a small park near the East River Drive, was set aside by the Board of Estimate for that purpose, was put in readiness and surrounded by a fence by the Park Department, and the Mayor and his family moved in. He did not make his usual annual pilgrimage to a "Summer City Hall" in one of the outlying boroughs.

## CITY POLITICS

BY ALFRED WILLOUGHBY

EXECUTIVE SECRETARY, NATIONAL MUNICIPAL LEAGUE

### GENERAL

Despite the general preoccupation with the war, more progress in the improvement of local government was made during 1942, as measured by recognized standards, than during any of the half dozen preceding years. Several principal factors appear to have produced this unexpected situation. Some communities, recalling the depression emergencies they encountered after the last war as the result of careless planning and thoughtless spending, are subjecting themselves to a searching self-examination; others are revolting against local waste because of the pinch of war taxes, and some see it as a primary wartime duty to make every governmental activity as efficient as possible.

### POST-WAR PLANNING

Conscious of the fact that local communities will bear the first impact of demobilization, reconversion of industry, temporary unemployment, migratory populations, and shifting

sources of revenue, many cities approach the problem of preparing for post-war emergencies. By the end of the year eight states had completed plans to provide immediate post-war employment on a large scale, and others were at work on similar programs. Nearly all of the larger cities had begun to plan such improvements as buildings, streets, sewers and sewage treatment, waterworks, hospitals, parks, playgrounds, grade separations, bridges, and a great variety of others which have been held in suspension by the shortage of materials and labor. A great many cities, handicapped by lack of legal powers, must await action by the state legislatures before being able to make specific progress in preparing reservoirs of public works projects and arranging to accumulate funds.

Such capital improvements as were being made were in general limited to the provision of school, sanitary, and recreational facilities by the Federal Works Agency for "war boom towns" which had expanded at a pace

## CITY POLITICS

too rapid for local financing capacity. The Federal Government bears approximately two-thirds of the cost of such projects numbering approximately 1,700 in 45 states and costing approximately \$270,000,000.

### PROPOSALS VOTED UPON

Comparatively little interest was taken in questions submitted to the voters. In 47 cities of above 25,000 population, 104 proposals were submitted. The average percentage voting on measures was 33 with a range of 68 down to 3.6 per cent, it was revealed by 44 cities which reported these details to the Bureau of the Census. In these cities 69 measures were approved by votes ranging from 50 per cent of all registered voters down to 2 per cent. The average was 24 per cent.

### CITY WAGE DISPUTES

The Federal War Labor Board, in a historical and significant decision, held that it does not have jurisdiction over labor disputes involving municipal employees. The decision was made in connection with cases involving New York City and Newark, N. J. Mayors, city managers, and law officers of many cities fought the efforts of labor groups to carry city employee controversies to the Board.

### MERIT SYSTEM EXTENSION

Considerable progress was made during the year in the extension of the merit system in civil service. The largest extension, that in the State of New York, forced all counties to choose by July 1, 1942 which of three forms of civil service administration they will adopt when the merit system is extended by the State Civil Service Commission to all of the 12,000 units of local government in the state as of July 1, 1943.

At the end of the year New Orleans adopted a sound merit system, and the Louisiana state merit system law was approved by the courts. Legal conflicts which have delayed the establishment of the merit system in St. Louis have been cleared by the

courts. Enabling legislation will be introduced in various state legislatures including Iowa, New Hampshire, Oregon, and West Virginia.

### CHARTER CHANGES

The council-manager form of government was adopted by 20 communities and one county, the largest number in ten years, bringing to a total of 572 the municipalities and counties which will operate with this plan in 1943. This compares with 19 in 1941, 18 in 1940, and 20 in 1939. Five communities defeated proposals to adopt the manager plan. One voted to abandon the plan.

### HOUSTON, TEXAS

A revolt of citizens of Houston against the firmly entrenched political *status quo* led to the adoption of the council-manager plan by one of the largest cities in the south. At the end of the year the new council, all the members of which were supported by the reform forces, drafted John N. Edy as manager from his post with the Federal Government as assistant commissioner for administration of the Federal Public Housing Administration. Before going to Washington Mr. Edy had served as the manager of Toledo, O. and several other cities.

### KANSAS CITY, MISSOURI

One of the foremost examples of political rehabilitation was overwhelmingly sustained by the voters of Kansas City which swept back into office the city council which had redeemed municipal affairs from the low level to which Boss Tom Pendergast's domination had brought them.

### YONKERS, NEW YORK

In August Yonkers conducted the first proportional representation recount ever held in the United States of votes cast in the preceding councilmanic election to fill a vacancy. The recount resulted in the first majority for the city's reform forces which had been hampered in their efforts to bring about improvements since their adoption of the council-manager plan in 1940. In the No-

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vember election the voters defeated by a two-to-one margin proposals by both major parties to abandon proportional representation as the method of electing the city council.

### LOWELL, MASSACHUSETTS

Lowell, once a busy manufacturing city which has experienced a steady industrial recession over a period of years, became the second Massachusetts city to adopt the so-called "Plan E" which provides the council-manager plan with the council elected by proportional representation. Cambridge, the first city in that state to use "Plan E" as a cure for its difficulties, completed its first year of successful operation under the new system.

### JERSEY CITY

The first sign of a possible break in the heretofore invincible power of Jersey City's Frank Hague appeared in 1942 when the Hudson County Tax Board, appointed by Governor Charles Edison, granted widespread reductions of the assessed valuation of real estate in New Jersey's second largest city. This resulted in a vigorous battle of words during which Hague warned of possible bankruptcy for Jersey City. In November, for the first time in many years, Hague's Hudson County machine failed to deliver enough votes to offset his opponents in the rest of the state with the result that Albert W. Hawkes was elected United States Senator.

### MINNEAPOLIS

The charter commission of Minneapolis was requested by citizens' groups to postpone the submission of

the council-manager plan to the voters pending further study of the school system and the results of possible action which Governor Harold E. Stassen was planning to request of the state legislature to remedy organizational defects in the city's basic governmental structure.

### NEW YORK

An important development in the perennial political feud between Mayor F. H. LaGuardia and the city council, which is dominated by Tammany and other democratic groups, was the decision of the state's highest court that the council has the power to subpoena papers in the Mayor's possession. As the year came to a close, students of government were puzzled by the announcement that Councilman Louis Cohen, traditionally an opponent of proportional representation and civic groups in general, was preparing to campaign for the adoption of the council-manager form of government for the nation's largest city.

### PHILADELPHIA

An impressive lesson in practical civics and child leadership was provided when Philadelphia's Committee of Seventy sponsored a campaign to get 400,000 boys and girls in the public and parochial schools to urge their parents to vote. The result is indicated by the fact that, in the November election, 64 per cent of the qualified voters of Philadelphia cast their ballots as compared with 52½ per cent for Pennsylvania as a whole, 51 per cent for neighboring New Jersey, and 52 per cent for the nation at large.

## FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

By CLINTON ROGERS WOODRUFF  
LAWYER AND WRITER, PHILADELPHIA

### INTER-MUNICIPAL POLICE COMMUNICATION

At least 22 of the country's largest cities and a number of smaller ones

operate inter-municipal police communication systems so organized as to play important roles in the war efforts of their areas, according to the

## FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

International City Managers Association. Few if any changes are necessary to switch from normal peacetime activities to such war tasks as assisting in preventing flight of enemy agents across jurisdictional lines, checking sabotage and looting, and facilitating troop movements and civilian evacuation by coordinated traffic administration.

Cities bound together by police radio usually include a central city which clears messages and as many as 50 other police jurisdictions in the metropolitan area. In most cases, arrangements for the cooperative broadcasting are merely by an exchange of correspondence, but eight of the cities in the report offer the service under formal contracts and five others have ordinances on the subject. Each community receiving messages generally installs and maintains its own receivers. Most agreements are for one-way communication.

Of the 22 cities with inter-municipal police radio systems studied in the report, three—Chicago, Cincinnati and Cleveland—broadcast to more than 50 neighboring jurisdictions. These cities can make extensive radio blockades with their police communication systems. In five minutes, for example, the Chicago system can mobilize 500 squad cars in Illinois, Michigan, and Wisconsin. Pittsburgh broadcasts to 37 municipalities, St. Louis to 21, Buffalo to 18, Los Angeles and Milwaukee to 12 each, and Detroit to 10. Thirteen other central cities send police radio calls out to one to six nearby communities. Other cities broadcasting for their neighbors are Royal Oak, Mich., Newark, N. J., Berkeley, Calif., and Rochester, N. Y.

### POLICE RECORDS

A manual designed to guide the police administrator and his staff in the installation, operation, and use of a records system is now available for the first time in *Police Records: Their Installation and Use*, published by the Public Administration Service. Many cities during the last

decade have adapted their records systems to meet the requirements for reporting crime statistics to the Federal Bureau of Investigation, using as a basis the police records outlined in the manual *Uniform Crime Reporting* published in 1929 by the International Association of Chiefs of Police. Interest in more adequate and complete police records systems led the Association in 1931 to develop a suggested records system based on an installation made by the Association in Pasadena, Calif. During the following years records systems were installed by the Association or by Public Administration Service in Fresno, Calif.; Nashville, Tenn.; Saginaw, Mich.; Greenwich, Conn.; San Antonio, Tex.; Peoria, Ill.; Greensboro, N. C.; and in a number of other cities. O. W. Wilson, the author of the new manual, formerly chief of police at Wichita, Kan., is now professor of police administration at the University of California and a staff member of Public Administration Service.

### INTER-CHAMBER FIRE WASTE CONTEST

Sponsored by the Chamber of Commerce of the United States and the National Fire Waste Council, and participated in by more than 500 cities, municipalities under the manager plan won the grand award as well as two first places out of six population groups in the Inter-Chamber Fire Waste Contest. The grand award for the most notable work on fire prevention and protection went to Cincinnati, which likewise took first place in the 250,000-500,000 population group. In the latter group two other manager cities—Rochester, N. Y. and Toledo, O.—received honorable mention. First place in the 100,000-250,000 group was won by Wichita, Kan., with two other manager cities—Grand Rapids, Mich. and Oklahoma City—receiving honorable mention. In four groups non-manager cities won first places as follows: over 500,000, Milwaukee; 50,000-100,000, Lakewood, O.; 20,000-50,000, Parkersburg, W. Va.; and under



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20,000, Valley City, N. D. However, in these four groups nine manager cities received honorable mention: in the 50,000-100,000 group, Schenectady, N. Y., Kalamazoo, Mich., Berkeley and Stockton, Calif., and Roanoke, Va.: in the 20,000-50,000 group, Newburgh and Watertown, N. Y., Muskegon, Mich., and Gastonia, N. C. Selection of winning cities took into account achievements in reducing fire losses, intensive educational work in fire prevention, organization for fire defense and permanent improvements to eliminate fire hazards.

### FIRE INSURANCE ON CITY PROPERTY

For several years a great deal has been said and written about fire insurance on municipally owned property, but a comprehensive report has been prepared by the Committee on Municipal Insurance of the League of California Cities, ranging all the way from a discussion of insurance rates and forms to the determining factors in an intelligent consideration of a self-insurance plan.

In the introduction to its report, the Committee disclosed a study of the cost of fire insurance over a ten-year period on municipal property in 159 California cities which revealed that, while the ratio of losses to premiums paid was well below the average for all classes of property, the average annual premiums involved were not sufficiently large to justify a recommendation that municipally owned property be rated separately from other property on an experience basis.

For the guidance of any city contemplating self-insurance, the following rules are regarded generally as feasible:

1. The number of risks to be covered should be sufficiently large to permit the orderly working of the law of averages. An insufficient number of risks means a lack of spread of risk.
2. The amount of coverage on each risk should be small and

fairly uniform. The inclusion of several very large risks often will prevent the proper application of the law of averages because a total loss involving one of the large risks might wreck the whole self-insurance plan.

3. Extremely hazardous risks should be excluded from the self-insurance plan and should be placed elsewhere.

4. Risks should be independent of one another. There should be no conflagration or catastrophe possibilities.

5. If a self-insurance fund is created, it should be done gradually. Only a small portion of each risk should be placed in the self-insurance fund each year until the entire risk is assumed by the fund. Until such time as the self-insurance plan has been put in full operation, the balance of the risks not included in the self-insurance plan should be insured.

6. Little dependence should be placed on a 10- or 20-year loss record for any individual city.

7. The revenues or reserve fund should be adequate to absorb a large loss without bankrupting the city.

8. A self-insurance fund should not be used for any other purpose. At all times the fund should remain untouched except for loss payments and payments of the expenses of operating the fund.

A study of these rules will show that the establishment of a self-insurance fund or the meeting of fire losses out of current or reserve funds is not practical for the average or small city.

The Committee recommended that the city manager, finance officer, or some other municipal officer be held responsible for the insurance program. The report suggested that authority might properly be given to a reliable insurance broker, usually a local insurance agent or broker, who would receive a large proportion of the business to compensate him for

## FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

his services, or that the city might negotiate with its local association of insurance agents as a unit, relying upon the association to appoint a committee to deal with the city's insurance problems and to distribute any commissions involved. The plan adopted should provide for the city to retain control and administration of the program, . . . the insurance adviser or local agents' association providing technical assistance in handling details of procedure and policies set up by the city.

If the city can afford it, the Committee recommended that an appraisal of municipally owned properties be made by a reliable appraisal company. If this is not practicable, the Committee recommended that original contract costs and building plans, when available, be used as a basis for computation of present values, adjusting them in accordance with the changes indicated by a reliable index showing fluctuations in building costs.

On the subject of fire insurance rates, the report made this significant observation: "Rates between two risks or between cities can not be compared unless both have the same type of building construction and fire protection, identical policy forms and carry the same percentage of coverage." It urges that a careful analysis of the rates be made in each instance, using the actual surveys employed in the making of the rates, and further recommends a similar check-up at regular intervals.

Although the report recognized that there are acceptable non-stock insurance companies, a preference for capital stock insurance companies is indicated because general reductions in fire insurance costs can best be accomplished through organizations maintained by capital stock companies and because cities, more than any other governmental agencies are the recipients of many indispensable services such as the following which are furnished without cost by capital stock company organizations:

1. Purchase of fire-fighting equipment by cities are based upon the

National Board of Fire Underwriters Standard Specifications for Municipal Apparatus.

2. Fire equipment, such as hose threads and connections, has been largely standardized through the efforts of the National Board of Fire Underwriters. In cases of emergency, extra equipment from neighboring towns can be used easily and quickly because their hose lines are standardized and connections can be made without delay.

3. Periodic checks are made by engineers to see that the equipment is properly maintained to obtain the highest efficiency and performance.

4. Recommendations are made regarding proper location of fire fighting equipment. This independent, scientific approach to such difficult problems has aided many cities in securing greater efficiency.

5. Inspection by local and national organizations enables cities to determine rating and standing of a local fire department as compared to national standards.

6. Fire-alarm systems are installed in accordance with the standard regulations, and before acceptance by the city the workmanship and equipment must be approved by the Fire Underwriters. An approved system, which results in a reduced insurance cost, is periodically inspected to be sure it is in proper working order. Fire-protection engineers plan for fire-alarm boxes to be the primary method of turning in alarms, with the telephone system as a supplemental method.

### NATIONAL BOARD OF FIRE UNDERWRITERS ORDINANCE

A number of cities have already adopted the National Board of Fire Underwriters ordinance in whole or in parts which fit the city best, as it is purposely flexible. This ordinance will not reduce fire loss of itself. There must be shrewd, energetic, and continuous inspection. The five

## V. MUNICIPAL GOVERNMENT

pages of general provisions mention the Fire Chief 20 times, and point out things for the city council, or commission, city attorney, and mayor to do. Certainly there must be a fire-prevention bureau whose first job is to prevent fires by enforcing the tested provisions for the storage and use of explosives and inflammables, installation and maintenance of fire-alarm systems and extinguishers, and determining adequacy of escapes and exits. In these days of war industries, present concern centers on the storage, handling, and use of numerous chemicals. The entire job of fire prevention, which also means fire inspection and study, is important because a fire is as likely to start from the unexpected as from the usual hazards.

The forces of the capital stock company fire-insurance business have been called upon to rally every community in the country in a fire-prevention program with the objective of making towns and cities safer and of protecting war and other materials against destruction by fire.

W. A. Mallalieu, general manager of the National Board of Fire Underwriters, and Harold N. Mann, chairman of the Fire Prevention Committee of the National Association of Insurance Agents, called upon the production forces of the fire insurance business to spur their communities to adopt suitable fire-prevention ordinances as part of their contribution to the war emergency. "Adequate fire prevention ordinances," they declare, "empower the fire department to discover and cause to be remedied conditions which could readily interfere with production of materials which are absolutely essential to our war efforts."

### SCHOOL ATHLETE TRAINING FOR FIREMEN

The residential town of Teaneck, N.J., which has been widely publicized for its accomplishments since it adopted the council-manager form of government 12 years ago, has done something original again. To replace firemen who have gone into the

armed forces, but whose jobs will be waiting for them after the war, high school athletes have been trained. They study and sleep nightly in the fire-houses. They receive \$30 a month pay. If a serious fire breaks out during the day, they leave class and go to the scene by automobile. There is an obvious economy for the community, and there are benefits for the boys themselves. Their scholarship has improved, their habits of sleeping are more regular, and they plan to save most of their wages toward college expenses. Less obvious, but perhaps more important to Teaneck's future, is the effect this experience is having on the boys' characters, and on their attitudes as citizens of their community. There is, after all, a considerable difference between trailing the fire apparatus to an exciting "good fire" and riding on that apparatus to protect one's community from an enemy.

### MUTUAL AID FIRE PROTECTION

According to a survey of 30 cities in 21 states by the International City Managers' Association, mutual aid fire protection plans of the type common in Great Britain since the start of the war are being added to the more prevalent scheme of service by one governmental unit to nearby cities and villages, where any inter-municipal arrangements exist. By this mutual aid plan, legal in only five of the 21 states covered by the survey, cities participating agree to help one another in time of disaster with fire-fighting equipment and man-power.

Only five of the 30 cities are members of mutual aid plans, outstanding of which are Boston and the New York City area. Under the Boston plan nearly 30 cities are interconnected by fire alarm systems, affording protection for 1,750,000 persons. The New York plan, which includes New York City, Westchester and Nassau Counties in New York, and Hudson County in New Jersey, makes facilities of 154 professional and vol-

## FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

unteer fire departments mutually available in times of emergency.

Fifteen of the 30 cities render outside service of an emergency nature only, with no prearranged understanding. Four of them—Buffalo, Chicago, San Francisco and Washington, D. C.—have formally provided by fire department regulations, ordinances, or city charter that apparatus may be sent outside, but no actual working arrangements have been made with surrounding municipalities. Only 11 of the 30 cities render outside aid on a formal basis with a clear understanding of the obligations of each party.

### FIRE FIGHTING EQUIPMENT ALLOCATION

The first allocation of fire-fighting equipment, gas masks, stretchers, cots, etc. under the recent \$100,000,000 Congressional appropriations, was made principally to cities within the 300-mile coastal strips regarded as "target areas." Priorities among communities was based on: (1) likelihood of attack; (2) vulnerability, and (3) importance to war production of manufacturing plants in the community. Many towns of 10,000 population and over, located within the 300-mile coastal strip, are now included in the original tentative allocations, but are not listed in the War and Navy Department as having manufacturing plants producing important war materials. Such towns, particularly those located more than 100 miles from the coast, eventually were left out of the allocation lists in favor of smaller towns where important war production manufacturing plants are located.

### CITY SERVICES AND COSTS

The impact of the war on municipal services and costs varies considerably from city to city. An analysis of the information received from officials in 18 cities reveals that most of the savings from economies is offset by new expenditures such as for civilian defense, by increases in salaries and wages, by the increased cost of supplies, and in some instances by de-

mands for an increase or extension of services. Capital improvements are being postponed because of the shortage of labor and because priorities make it more difficult to obtain certain necessary materials. Where the war production program has caused a distorted population growth cities are having difficulty securing enough revenues for operation according to the City Manager of Upland, Calif. New businesses have produced license fees, but little in the way of tax revenues because assessments have not yet been readjusted. Tax collections, however, remain at a high level, and there is a tendency to maintain taxes at present levels with the idea of paying off debts and of accumulating a reserve for an emergency or for the post-war period when the municipal plant and facilities will require rehabilitation, when equipment and supplies will again become obtainable, and when postponed public works can be constructed.

### PHILADELPHIA INCOME TAX

Philadelphia's one and one-half per cent tax on earned income has brought in \$21,552,294 during the 12-month period ending March 31, 1942, an average of \$1,796,000 a month. About 85 per cent of the total payments received by the city have been received from employers who deduct the tax from employee payrolls; 12 per cent from persons engaged in professions and in unincorporated businesses, and about 2 per cent was paid by employees directly to the city. The Superior Court of Pennsylvania on March 30, ruled that Philadelphia's income tax applies to Federal employees working in the city and in the Philadelphia Navy Yard.

### MONTCLAIR TAXPAYERS HELP ANNUAL BUDGET

Taxpayers of Montclair, N. J., a wealthy residential suburb of New York City, helped their city council in 1942 to make up the annual budget. As in 1939, when the experiment was first tried, a postcard ballot of public opinion was made to determine



## V. MUNICIPAL GOVERNMENT

whether certain municipal services should be dropped or taxes raised to pay for them. Results of the poll showed residents of Montclair wished to retain their community services despite the fact that the community, with a declining population and tax base, is faced with an increase in taxes.

### NEW MUNICIPAL ACTIVITIES

Twenty-three of the 185 council-manager cities recently surveyed by the International City Managers' Association reported new activities as follows: municipal airports in Ames and Mason City, Ia., Three Rivers, Mich., Palm Springs, Calif., and Albert Lea, Minn.; municipally owned and operated parking lots at Mason City, Ia., Northampton, Penn., and Benton Harbor and St. Arthur, Tex.; garbage collection at Clawson, Mich., Pacific Grove, Calif., and Pampa, Tex.; refuse collection and disposal at Wichita Falls, Tex.; extension of recreational facilities in Alexandria, Newport News, Radford, and Salem, Va., Sumter, S. C., Palm Springs, Calif., and Kingsport, Tenn. Wilmette, Ill., has built and operates a recreational building, and Salem, Va., a community center building. Ventura, Calif., has established a municipal bus system.

### PARKING

According to a report received by the American Municipal Association, all-night parking is against the law in a majority of the large cities. Of 44 American and three Canadian cities, in the over-150,000 population class covered by the survey, 30 forbid night parking and four others make it illegal in certain districts. Washington, D. C. and Buffalo prohibit night parking in the snow season. Enforcement of all-night parking prohibitions in particular cities ties in closely with their methods of enforcing traffic ordinances generally, the report showed. Violating cars are tagged and impounded by police. Most of the cities enforce the "no parking" ordinances continuously, and supplement with efforts to educate the public.

Usual exceptions to parking regulations are cars of physicians and emergency vehicles such as ambulances, police and fire apparatus. Baltimore, Milwaukee, and Vancouver also issue special parking permits to night workers.

### CITY FLAGS

About 50 American cities have an official or unofficial flag. In a report to the Milwaukee city council on July 27 the municipal reference library of that city pointed out that 10 of the 14 cities over 500,000 population have a civic or official flag. Philadelphia in 1895 was one of the first cities to adopt a flag, and Cincinnati in 1940 the most recent. The flags of Baltimore, Boston, Chicago, Kansas City, New Orleans, New York, and Providence were adopted during the years 1913 and 1918, while Rochester, N. Y. designated a city flag in 1934.

### REFUSE COLLECTION

A sampling survey of 190 American municipalities to determine whether refuse was collected by the municipality or in some other way was recently made by the American Public Works Association. Fifty-five per cent of the 190 cities, ranging in size from less than 25,000 to over 100,000, reported refuse collection as a municipal function. Eighteen per cent reported that contracts were let for collection, and 11 per cent reported that the service was performed by private refuse collectors and paid directly by property owners. Combinations of the three types of service were reported by the remaining cities. Compared with a wider survey of 566 cities made ten years ago, the current report shows a relative increase in the number of municipalities making their own collections, and a decrease in the number of cities with private collection.

Although more than one-half of the cities over 100,000 population reported in the survey have municipal collection combined with private or contract service, a number of the

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

large cities still assume no duties except supervision in connection with refuse gathering. Among them are Seattle, South Bend, Ind., Kansas City, Mo., and Omaha, which use contractors exclusively, and San Francisco, Portland, Ore., Decatur, Ill., and Oakland, Calif. where private collecting is in force.

Many combinations of municipal, contract, and private services are in

use. Los Angeles, Calif., for example, collects about 90 per cent of the garbage with municipal forces, but awards contracts for the service for two outlying districts. Non-combustible rubbish is collected in Los Angeles by the city, but combustible rubbish is picked up by private collectors. Portland, Me. and Erie, Pa. likewise use all three plans in both residential and commercial areas.

## PERIODICAL PUBLICATIONS

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*American City*  
470 Fourth Ave., New York City.  
*Insured Mortgage Portfolio*  
Federal Housing Administration,  
Washington, D. C.  
*Municipal Finance*  
1313 East 60th Street, Chicago.  
*Municipal Sanitation*  
24 West 40th Street, New York  
City.

*National Municipal Review*  
299 Broadway, New York City.  
*Public Management*  
1313 East 60th Street, Chicago.  
*Public Works*  
310 East 45th Street, New York  
City.  
*Sewage Works Journal*  
40 Wall Street, New York City.  
*Water Works and Sewerage*  
330 S. Wells Street, Chicago.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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AMERICAN CIVIC ASSN., 901 Union  
Trust Bldg., Washington, D. C.  
AMERICAN MUNICIPAL ASSN., 1313 E.  
60th St., Chicago, Ill.  
AMERICAN PUBLIC WORKS ASSN., 850  
East 58th Street, Chicago.  
GOVERNMENTAL RESEARCH ASSN., 1313  
East 60th St., Chicago, Ill.  
INSTITUTE OF LOCAL AND STATE GOV-  
ERNMENT, University of Pennsyl-  
vania, Philadelphia.  
INSTITUTE OF PUBLIC ADMINISTRATION,  
261 Broadway, New York City.

INTERNATIONAL CITY MANAGERS' ASSN.,  
1313 E. 60th St., Chicago, Ill.  
NATIONAL CIVIC FEDERATION, 112 Park  
Ave., New York City.  
NATIONAL CIVIL SERVICE REFORM  
LEAGUE, 67 W. 44th Street, New  
York City.  
NATIONAL MUNICIPAL LEAGUE, 299  
Broadway, New York City.  
UNITED STATES CONFERENCE OF MAY-  
ORS, 730 Jackson Pl., N.W., Wash-  
ington, D. C.

# DIVISION VI

## TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

### ALASKA

BY ERNEST GRUENING  
GOVERNOR OF THE TERRITORY OF ALASKA

#### FINANCE

Cash on hand in the territorial treasury Jan. 1, 1942 amounted to \$747,237.20, as compared with \$790,-224.96 the previous year. The combined resources of territorial and national banks at the close of business June 30, 1942 were approximately as follows: capital \$972,000, surplus and undivided profits \$1,464,811.63, deposits \$28,099,866.25. Totals for the previous year were: capital \$985,-000.00, surplus and undivided profits \$1,382,482.82, deposits \$22,110,698.71.

#### FISHERIES

The total value of the Alaska fishery products in 1941 was \$63,439,593, an increase of \$26,998,933 over the preceding year. Products of the Alaska fisheries in 1941 showed a marked increase in quantity and value over the preceding year. The increase in quantity was chiefly in salmon products while the value of all fishery products was considerably higher. The production of clams, shrimps, and crabs decreased somewhat, owing to wage disputes and the general scarcity of experienced labor throughout the territory. The total number of salmon of all kinds taken in 1941 was 108,335,585 as against 85,854,483 in 1940. The number of cases packed was 6,932,040, valued at \$56,-217,601, as compared with 5,069,343 cases valued at \$31,474,492 in 1940. One hundred and nine canneries were

operating, nine more than in 1940, and the number of persons employed increased from 19,666 to 21,994. Thirteen herring plants were in operation, being 11 less than in the preceding year, and the number of employees decreased from 737 to 718. The total value of these products was \$2,461,-456 as compared with \$1,258,071 in 1940. The halibut industry employed 1,142 persons as compared with 1,009 in 1940. The value of halibut landings at Alaskan ports totaled \$1,443,-071 as compared with \$758,882 in 1940.

#### MINERALS

The total value of mineral products in Alaska since 1880, when records were first kept, to the end of 1941 was about \$860,000,000. Alaska mines produced \$26,193,000 worth of minerals in 1941 as compared with \$28,-470,000 in 1940. In 1941 the output of gold from both lode and placer mines was \$24,068,000, a decrease of \$2,110,000 from 1940. The production of all platinum metals in 1941 was 25,400 ounces valued at \$813,000 as compared with 28,886 fine ounces worth \$1,093,000 in 1940, placing Alaska well upon the list of countries producing these metals. Tin ore deposits in Alaska, mainly in Seward Peninsula, yielded in 1941 119,500 pounds worth \$62,100 compared with 104,000 pounds worth \$52,000 in 1940. Coal to the value of \$844,000 was pro-

duced in 1941 from Alaska mines, principally the Matanuska and Healy River fields. (The foregoing figures are preliminary estimates of the U. S. Geological Survey).

### FURS

A total of 95,013 fur-seal skins were taken in the Pribilof Islands operations in 1941, an increase of 29,750 over 1940 which recorded an increase of 4,790 over 1939. Killings were from three-year old male seals. Computations as of Aug. 10, 1941 showed 2,338,312 seals of all ages and classes in the Pribilof Islands herd, an increase of 53,176 over 1940, which had shown an increase of 164,362 over 1939. This herd has steadily increased since 1910, when there were but 132,000 seals. During the fiscal year ended June 30, 1942, two public auction sales of fur-seal skins were held by the Fouke Fur Company at St. Louis, Mo. during which 60,363 skins were disposed of. Gross receipts from these sales, together with an additional 198 skins sold at special sales, were \$2,348,255.35. Also 640 blue fox skins were sold for \$11,634 and 11 white fox skins for \$236.50. In the 1941-42 season 829 blue and five white fox skins were taken on the two islands.

### REINDEER

The Reindeer Service field headquarters are situated at Nome. A General Reindeer Supervisor provides general field supervision of reindeer work, being directly responsible therefor to the general superintendent of the Indian Service at Juneau. The reindeer country is divided into six administrative units, each under supervision of a unit manager familiar with policies and field work. Local supervision of reindeer activities is provided at 40 villages by Indian Service teachers, who report direct to unit managers. Approximately 170,253 reindeer, of which natives own an estimated 130,570 and the Government 39,683, graze on the west coast of Alaska between Kodiak Island and the Arctic rim east of Barrow.

### TRANSPORTATION

The Alaska Railroad carried 59,107 rail line passengers, an increase of 15,815 over the previous year. Rail line freight traffic amounted to 419,867 tons, an increase of 212,505 tons over 1940.

Commercial aviation is one of the major factors in the industrial life of Alaska. The number of passengers during the fiscal year ended June 30, 1942 totaled 57,028; passenger miles flown 11,106,122; mail and freight carried 5,558,938 pounds.

Five steamship companies served Alaska during the year. The Alaska Steamship Company operated ships from Seattle to southeastern Alaska ports, as well as to Kodiak and Seward. The Northland Transportation Company and the Alaska Transportation Company of Seattle, the Canadian National Steamships of Vancouver, B. C., and the Canadian Pacific Railway Company of Victoria, B. C. operated ships on regular schedule from Seattle, Vancouver, and Victoria to southeastern Alaskan ports.

### EDUCATION

The territorial public schools in Alaska for the education of white and mixed-blood children, including both elementary and high schools, are under general supervision of the Territorial Board of Education, with the Commissioner of Education as executive officer. Schools are supported largely by territorial appropriations, augmented for rural schools by 25 per cent of the Alaska Fund, which is derived from a variety of Federal taxes collected in the territory, and for schools within incorporated towns by local taxation to an extent of 20 per cent to 30 per cent of their operating costs. Four-year high schools, accredited by the Northwest Association of Secondary and Higher Schools, are maintained at Anchorage, Cordova, Douglas, Fairbanks, Juneau, Ketchikan, Nome, Petersburg, Seward, Sitka, Skagway, and Wrangell, as well as the rural high school at Palmer and the Sheldon



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

Jackson School at Sitka. Non-accredited high schools are maintained at Haines and Nenana.

Graduation from a three-year standard normal school or its equivalent is a prerequisite for the Alaska elementary teacher's certificate. High school teachers must be graduates of standard four-year colleges and must have completed a minimum of 15 semester-hours in education. At the 20th annual commencement of the University of Alaska, 31 bachelors degrees and two professional degrees were conferred covering courses in agriculture, arts and letters, business administration, chemistry, civil engineering, education, general science, home economics, mining engineering (with options in geology and metallurgy), and pre-medicine. In addition to an enrollment of 310 regular students for the year, 681 enrolled in short courses. Agricultural Experiment Stations are maintained at the University and in Matanuska Valley

and at Petersburg where an Experimental Fur Farm has been established. An Extension Service serves the territory with five workers.

The Office of Indian Affairs maintained three vocational high schools and 120 elementary schools, which serve also as community centers for the Indians and Eskimos. Programs of study for the schools vary greatly, being based upon the needs and abilities of the individual communities and the extent to which white culture has been adopted. Regular teachers of this office are subject to the Civil Service rules and regulations. Minimum qualifications require graduation from a three-year teacher's training school or a University bachelor's degree, and two years' experience. Increased development of native arts and crafts is an integral part of the program. A total of 193 teachers, with 80 assistants—10 being Indians—taught 6,961 pupils during 1941-42.

### HAWAII

BY INGRAM M. STAINBACK  
GOVERNOR OF THE TERRITORY OF HAWAII

#### CONVERSION TO WAR STATUS

Hawaii, an organized incorporated Territory and, hence, an integral part of the United States, became the first American soil to bear the brunt of the initial Axis' aggressor attack upon the nation on Dec. 7, 1941. Japanese bombs, dropping on the Pearl Harbor Navy Base and other military installations on Oahu, as well as in Honolulu itself, in the early morning hours shattered the usual Sabbath calm of what had been known for years as the vacation "Paradise of the Pacific," and transformed it instantaneously into the center of an active combat zone.

The complete conversion of the nation's mid-Pacific military and naval outpost to an all-out war status was accomplished when, within two hours, the then Governor J. B. Poindexter (succeeded Aug. 24, 1942 by Governor

Ingram M. Stainback) proclaimed a "Defense Period" throughout Hawaii under the broad powers granted by the Hawaii Defense Act, which had been passed the previous October by the territorial legislature in special session called principally for that purpose. Shortly thereafter the Governor suspended the writ of habeas corpus and placed the Territory under martial law, in accordance with Section 67 of the Hawaiian Organic Act.

Hawaii since has been completely blacked out nightly; sales of intoxicating liquors were prohibited absolutely for 78 days, and then permitted, when available, on a restricted basis of one quart of spirituous liquors or one case of beer to a consumer weekly, with bars open only between 10 a.m. and 5 p.m. daily; rents and prices of all commodities, including food, have been strictly controlled; most of the

functions of the civilian courts have been assumed by military or provost tribunals; gasoline has been rationed at a basic maximum of ten gallons a month, plus such small amounts as are necessary for transportation essential to the war program; and many other innovations, hitherto unknown to Hawaii and the rest of the United States, have been imposed in furtherance of the nation's effort.

#### CIVILIAN DEFENSE MEASURES

The Office of Civilian Defense was sufficiently well organized on that memorable Sunday to swing into immediate action with its 17 divisions and 12 sub-divisions, employing a total of 2,529 persons, augmented by some 14,000 volunteers. From funds provided by the Department of the Interior, financial assistance was rendered, and is being continued, to four additional agencies not directly under the OCD—the office of the military authorities, public health service, public and private hospitals, and county police and fire departments.

The more important divisions under the OCD, all functioning continuously, include the bomb disposal division; communications; gas defense, which has distributed 400,000 adult masks, manufactured and distributed 70,000 built-up masks for children too young to wear adult masks, and manufactured and distributed 13,000 "bunny" masks for infants; mortuary and burial division; plans and training; women's division; demolition, rescue and repairs; transportation; air raid wardens, with nearly 5,500 volunteer members; evacuation division; emergency medical division, including supervision of the blood plasma bank, first aid stations, and emergency ambulance service, and civilian emergency hospital and nursing activities; registration division; and bureau of classification.

In addition, all peace-time resources of the territorial government were dedicated immediately to the achievement of the single national objective—win the war and get it over as soon as possible. Consequently, since that Sunday the work of all territorial de-

partments has been devoted—some in greater, some in lesser degree, but each to the maximum of its potentialities—toward the ultimate achievement of the victory which must be that of the United Nations.

#### GOVERNMENT

Of the 21 islands in the Hawaiian archipelago, eight are inhabited. During the greater part of the nineteenth century the islands formed an independent kingdom, but in 1893 the reigning Queen, Liliuokalani, was deposed and a provisional government set up. In 1894 a republic was proclaimed. Pursuant to the request of the people of Hawaii, expressed through the legislature of the republic, and a resolution of the United States Congress approved July 7, 1898, the islands were formally annexed to the United States on Aug. 12, 1898. The Organic Act under which Hawaii is governed was approved April 30, 1900.

Executive power is vested in the Governor, appointed by the President by and with the advice and consent of the United States Senate. The Hawaiian Organic Act provides that, to be eligible for appointment as Governor, one shall have resided in Hawaii for at least three years next preceding appointment. The Secretary of the Territory, who becomes Acting Governor during the illness or in the absence from the Territory of the Governor, is also appointed by the President by and with the advice and consent of the Senate. There is a Legislature of two houses, a Senate of 15 members elected for terms of four years, and a House of Representatives of 30 members elected for terms of two years.

Hawaii is represented in Congress by a Delegate, elected biennially. He has the right to debate and to be a member of committees of the House of Representatives, but has no vote.

#### AREA AND POPULATION

For administrative purposes the Territory is divided into five counties as follows: City and County of Honolulu, comprising the Island of Oahu

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

(area 604 sq. m.); County of Hawaii, comprising the Island of Hawaii (area 4,030 sq. m.); County of Maui, comprising the Islands of Maui, Lanai, Kahoolawe, and all of Molokai except the leper settlement (area 1,164 sq. m.); County of Kauai, comprising the Islands of Kauai and Niihau (area 627 sq. m.); and Kalawao, administered by the Board of Hospitals and Settlement (area 13 sq. m.). The total area is 6,435 square miles. The principal cities are Honolulu, the capital, situated on Oahu, and Hilo, on the Island of Hawaii.

The regular annual population estimates of the Board of Health, as of July 1, 1942, were withheld from publication in the interests of national defense, but the latest estimates, made by the Registration Division of the Office of Civilian Defense, list the non-military populations as follows: City and County of Honolulu, 283,000; County of Hawaii, 67,000; County of Maui, 49,000; County of Kauai, 31,000; Total, 430,000.

### FOREIGN TRADE

Likewise in the interests of national defense, the amounts and value of Hawaii's imports and exports during the year have not been published, but the harbors of the Territory have never experienced a busier period than that since the Japanese attack on Dec. 7, 1941.

### INTERNAL REVENUE RECEIPTS

Internal Revenue receipts for the fiscal year ended June 30, 1942 were \$32,067,927, a new all-time high record since annexation. These were \$11,391,149, or more than 55 per cent above the \$20,676,778 collections in the 1920-21 fiscal period, which had been the previous high mark, and were \$18,303,929 higher, or more than double the \$13,763,998 collection in the 1941 fiscal year.

### FINANCE

Despite the dislocation in all phases of life, the financial condition of the Territory continues to be excellent, it was indicated by general fund receipts for the fiscal year, which to-

taled \$22,065,468.54 against the estimates as pro-rated for the fiscal year of \$19,707,155.21, or an increase of \$2,358,313.33. From a further revision of estimates it is felt that an unappropriated surplus in the general fund on June 30, 1943 will approximate \$4,000,000.

### THE SUGAR INDUSTRY

Benefit payments on sugar produced in Hawaii during 1941 from the Agricultural Adjustment Agency were made to 1,893 producers and totaled \$8,594,532, a slight decrease from that of the previous year.

Additional payments of approximately \$100,000 were made to 1,053 participating farmers for compliance with the soil conservation program.

Despite large contributions to the national defense and war efforts in men, machinery, and materials, and highly uncertain transportation facilities, the sugar industry, Hawaii's principal economic bulwark, was able to ship approximately 850,000 tons of raw sugar to the mainland of the United States in the calendar year 1942, in comparison with the quota of approximately 1,000,000 tons which had been set for the Territory in previous years.

### THE PINEAPPLE INDUSTRY

Likewise in spite of heavy contributions to the national defense and war efforts in men, machinery and materials, and other handicaps growing out of the existing situation, the pineapple industry, Hawaii's second in importance, managed to produce in the 1942 pack year approximately the same quantities as those in 1941—11,060,000 cases of canned pineapple and 11,285,000 cases of pineapple juice. The Federal Government purchased a substantial quantity of the 1941 pack and announced that its requirements of the 1942 pack would be approximately 34 per cent of the canned pineapple and 21 per cent of the pineapple juice for Army and Navy and lend-lease consumption.

Continuation of the pineapple industry at approximately pre-war levels is extremely important to Hawaii's

## PUERTO RICO

economy in as much as 30,000 people at least are largely dependent upon this industry for their support, and its annual wages approximate \$15,-000,000.

### HOUSING PROBLEM

With added personnel of the Army

and Navy, together with thousands of imported civilian defense and war project workers, the housing facilities of Oahu have been taxed to the utmost despite the construction by the Federal Government, directly or indirectly, of thousands of dwelling places.

## PUERTO RICO

By B. W. THORON

DIRECTOR, DIVISION OF TERRITORIES AND ISLAND POSSESSIONS,  
DEPARTMENT OF THE INTERIOR

### OUTPOST OF WAR

Puerto Rico is the peak of one of the highest mountains in the world. All but the top of it lies under the sea, so that its steep 27,000 foot valleys are the strategic passes through which enemy submarines must push to enter the Caribbean Sea and strike at the economic heart of the New World—the Panama Canal.

Since Christopher Columbus found it on his second voyage, in 1493, the island has been a defense base of the western hemisphere—first for Spain; then for the United States. Don Juan Ponce de Leon, who died years later in Florida after transplanting tropical agriculture from Puerto Rico to the mainland, built wide-walled towers with gun emplacements when he was Governor. These still stand, manned with modern guns, because their sites are the most strategic spots even when war comes from the air.

Puerto Rico is only 1,400 miles southeast of New York and 963 miles from Key West. Millions of dollars have been spent in arming its hilly sub-tropical rectangle, and thousands of fighting men are hidden within its 100-mile length and 35-mile width. It is a cross-roads of air defense between North and South America and an important stop on air war transport routes to Africa and the Middle East.

Puerto Ricans have given generously to the war effort of the United Nations. The young men have enlisted in the armed forces. Valuable

lands have been given to military purposes, free of cost.

### ECONOMIC EFFECTS OF THE WAR

Like all outposts of war, Puerto Rico has sacrificed for the coming victory. Because the island normally imports most of its basic foods, its people have gone without, so that ships might carry troops to far-away battlefields. Because building materials and the rawstuffs of what limited industry the island enjoys are also brought in by sea, unemployment has increased. The insular legislature, the Governor's office, the United States Departments of the Interior and Agriculture cooperated closely to improve food and living conditions in the last months of 1942, but continued sacrifice on the island's part was still necessary.

The year began prosperously but economic depression soon set in as a result of the war and curtailed shipping. Before the close of the period covered by this report, unemployment affected approximately half the working population.

### POLITICAL STATUS

Puerto Rico has been held by the United States Supreme Court to be unincorporated territory of the United States, a status differing from that of those territories which have been incorporated into the Union.

Puerto Rico is governed under the Act of Congress of March 2, 1917,



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

known as the Organic Act, and subsequent amendments. Supreme executive power is vested in the Governor, who is appointed by the President of the United States by and with the advice and consent of the Senate of the United States, and holds office at the pleasure of the President. The act provides for seven departments—Justice, Finance, Interior, Education, Agriculture and Commerce, and Labor and Health. The Attorney General, who heads the Department of Justice, and the Commissioner of Education are similarly appointed by the President; the others are appointed by the Governor with the advice and consent of the Insular Senate. The department heads collectively form a council to the Governor known as the Executive Council. The auditor of Puerto Rico is also appointed by the President.

The island is represented in the United States by an elected Resident Commissioner who has a seat in the United States House of Representatives, with the right to debate but not to vote. Local legislative powers are vested in a Senate and a House of Representatives chosen by the electorate of the island every four years.

### THE JUDICIARY

The judiciary system consists of the Supreme Court, the District Court of the United States for Puerto Rico, the district and municipal courts, and justices of the peace. Appeals may be made in certain cases to appropriate higher courts, including the Supreme Court of the United States. The Chief Justice and four Associate Justices of the Supreme Court, the District Judge, District Attorney, and the Marshal of the District Court for Puerto Rico are appointed by the President. Statutory laws of the United States not locally inapplicable, except as otherwise provided, are in effect in Puerto Rico, except the internal revenue laws.

### CITIZENSHIP

Puerto Ricans are citizens of the United States but vote in the national elections only when they are residents on the mainland.

### GOVERNMENT

Puerto Rico during the year began developing an administrative government suited to its special needs. The Treasury Department was reorganized for greater efficiency and economy. A modern budget office was installed, along with an office of central statistics. An Office of Coordination was created to bring closer the work of the many Federal and Insular agencies. A Water Resources Authority was created to manage the public hydro-electric power system which had been built up little by little for the last 25 years. A Transportation Authority was established to operate the San Juan bus line, which faced financial ruin but had to be kept running in wartime. A Communications Authority was set up to take over the government-owned telegraph system, put it on a paying basis, and possibly assume the franchise of the Puerto Rico Telegraph Company in accordance with the insular constitution and the Company's contract.

### AGRICULTURE

**Sugar Cane.**—No basic sugar cane quota was assigned to Puerto Rico for the year 1941-42. During this fiscal period a total of 10,010,129 tons of cane was ground, as against 7,745,419 tons during the year 1940-41. A total of 1,147,590 tons of sugar was produced in 1941-42, compared to 932,000 tons of sugar of 96° produced in 1940-41. The average sucrose yield of the cane was 11.464 per cent, 0.569 per cent lower than that for last year. A total of 137,548 tons of refined sugar was produced by refineries in Puerto Rico, while in 1940-41 the output was 141,392 tons.

**Rum.**—The production of this by-product has been mounting steadily. During the year 1934-35 it totalled 93,739 gallons; by the year 1940-41 it had risen to 4,687,294 gallons, while in 1941-42 it soared to 6,914,461 gallons.

**Coffee.**—The coffee crop for the year 1941-42 was estimated at 295,930 quintals, with local consumption calculated at 150,000 quintals. A large

## PUERTO RICO

part of the resulting surplus was removed from the market through the efforts of the Coffee Price Stabilizing Corporation for Puerto Rico. This organization carried out a program of purchasing the coffee harvests of small farmers for shipment to the United States. Financed by Federal and Insular subsidies of \$2 each per quintal, the Corporation made purchases from 2,660 small farmers, thus providing them with an outlet for their crops at a reasonable price level.

**Tobacco.**—It is estimated that between 43,000 and 45,000 acres were planted to tobacco, yielding approximately 325,000 quintals. An excess of rainfall made the growing season a distinctly unfavorable one.

**Fruits.**—Competition from Cuba and continental fruit-producing areas has had the effect of limiting Puerto Rican fruit exports principally to pineapples. Normally the Island ships up to 650,000 cases to the New York market, but special circumstances stemming from the war situation made it necessary to have the 1942 crop consumed locally. Promotional work directed to this end, along with the canning of a portion of the crop, brought about the desired result.

**Vanilla** is slowly winning attention among the farmers of Puerto Rico. Some 500 acres are now planted to this vine, and a producers' cooperative has come into existence to foster its cultivation. Production of cured vanilla rose from 140 pounds in 1938-1939 to 1,148 in 1940-41. During the fiscal year under consideration production of green pods amounted to 9,672 pounds.

**Cotton.**—The year's production of cotton is expected to reach a total of 47,000 quintals, which is 8,363 quintals above the 1941 figure. Unfavorable weather had an adverse effect on the crop, particularly in the districts of Cabo Rojo and Lajas. The campaign against the pink boll worm was continued during the year.

**Cattle.**—Special attention was given to bovine tuberculosis, mastitis, contagious abortion and similar epizootic diseases. The usual help was furnished in the treatment of anthrax,

hog cholera, equine influenza, and verminous bronchitis. With the cooperation of the United States Department of Agriculture tuberculosis and fever tick eradication campaigns were conducted during the year.

### BANKS AND BANKING

At the end of the year there were 12 banks with 21 branches doing business in Puerto Rico. Aggregate deposits on June 30, 1942 amounted to \$119,361,174.14, as against \$86,654,834.21 on June 30, 1941. Bank loans and investments totaled \$54,799,349.52 on June 30, 1942, as against \$46,594,667.00 on June 30, 1941. Cash on hand on June 30, 1942 amounted to \$13,020,090.71, as against \$8,557,608.81 on June 30, 1941.

### PUBLIC FINANCE

The financial progress achieved during the year measured by the increase in excess of current resources over appropriation liabilities amounted to \$10,650,411.82 as against \$2,960,415.82 for 1940-1941. The General Fund showed a balance of \$20,526,788.18 compared to \$6,447,843.39 for the previous year.

Total cash collections from the alcoholic beverage industry and from narcotics reached a new high at the close of the year. Total collections reverting to the General Fund amounted to \$18,044,306.23, an increase of \$10,639,184.10, or 143.67 per cent above the previous year's collections, which amounted to \$7,405,122.13.

The tax collections on Puerto Rican rum shipped to the United States constituted the largest amount ever collected on the island from a single source of government income. The unprecedented increase for 1942 is accounted for by the rapid growth of the local rum industry, and the favorable market conditions prevailing in the United States.

Income tax collections also reached a new high during the year in review. Total collections amounted to \$7,635,382.93 as compared with \$2,843,433.42 for the previous year. This increase is to be attributed to the amendments

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

made to the Income Tax Law passed by the Insular Legislature, with retro-active effect to Jan. 1, 1940. The principal changes introduced were: (1) increase of tax rates; (2) subjection of partnership profits and dividend receipts in returns of individuals to payment of normal income tax; (3) elimination of credit on earned net income; (4) inclusion of incomes of husband and wife in a single joint return; (5) elimination of the \$3,000 credit to domestic corporations and partnerships; (6) reduction of personal exemption; and (7) subjection of taxpayers to the same penalties as those imposed by the Federal act.

The cash balance available in trust fund accounts on June 30, 1942, amounted to \$19,303,964.91 as compared with a cash balance of \$16,030,382.67 on June 30, 1941. Outstanding bond obligations of the people of Puerto Rico on July 1, 1942, amounted to \$23,700,000.00, as against \$26,975,000 on July 1, 1941.

### POLITICAL CHANGE

The Popular Party, which won the election of 1940, held a majority in the legislature by virtue of cooperation with the Liberal Party. Some legislation was passed during the year in furtherance of the Popular campaign pledges, but most of the legislature's action was directly or indirectly related to the war.

### LEGISLATION

**Special Session Measure.**—The First Special Session of the Fifteenth Legislature convened on Oct. 28, 1941. Of the 45 bills enacted during this session, the following are of outstanding importance: to provide for the stabilization of prices of commodities in the local market by the establishment of a Food and General Supplies Commission; to prevent the establishment of slums on public lands adjacent to urban zones of principal cities; to create the Insular Sewerage Service; and to coordinate the operation of the several water systems under the jurisdiction of the Puerto Rico Water Resources Authority, and to transfer to this authority such

properties as are connected with the furnishing of water, and which belong to the municipalities of Puerto Rico, including San Juan.

**The Second Regular Session** of the Legislature convened on Feb. 9, 1942, and adjourned on April 15. It passed 423 bills, 254 of which were approved. The most important of the approved measures were:

**Education.**—To amend the Law fixing a 12-month school year for teachers. This measure provides for the granting of vacations to teachers for one school month with pay in advance, as well as for the preparation of a program of educational activities additional to those of the regular school course, in order to give employment to public school teachers during the summer months.

**Defense.**—To create a Central Civilian Defense Committee, and to authorize the transfer to this organization of funds from the Insular Emergency Fund in addition to an appropriation of \$600,000 for its operation, and to authorize blackouts and alerts and punish violations of orders in this connection.

**Water Supply.**—To amend the Water Resources Authority Act in order to eliminate intervention of the Insular Government in matters pertaining to the Authority's revenues and expenditures, and to provide for the acquisition by the Authority of the waterworks system of any municipality, including that of the government of the capital, which fails to provide to the inhabitants of the municipality a supply of water of a quality, amount, and regularity sufficient for ordinary requirements under standards fixed by the Treasury of the United States for potable water and water for culinary uses furnished to public carriers in interstate commerce.

**Farm Loans.**—To amend existing legislation so as to facilitate the execution of contracts by small farmers for obtaining loans up to \$2,500 with Federal agencies established in Puerto Rico. This measure was passed in order to take advantage of a presidential order designating Puerto Rico



as a Distressed Emergency Area and thereby authorizing the granting by the Farm Credit Administration of loans to farmers up to \$2,500.

**Social.**—To create the Social Industrial School for Women under the direction of the Insular Department of Justice and to appropriate the sum of \$127,000 to carry out the purposes of this act; to eliminate the section for minors in the district jails of Ponce and San Juan, and to establish juvenile homes in their places; and to establish and organize the Insular Fire Service of Puerto Rico.

**Workmen's Compensation.**—To amend the Workmen's Accident Compensation Act. The principal changes consist in: (1) making a clear distinction between regular or permanent, and eventual or temporary employees in the issuance of policies; (2) providing that, if any employer fails to insure, the manager of the State Insurance Fund may assess and collect from him premiums for all such time as he may have remained uninsured in violation of the law; (3) providing that no policy shall become effective unless the policy holder pays the preliminary and additional premiums levied on him, and (4) providing that reductions ordered by the industrial Commission on the rates or premiums fixed by the manager shall be effective from the date on which such rates or premiums were promulgated, instead of from the date of the filing of the petition.

**Gasoline Taxes.**—To levy an internal revenue tax of seven cents on each gallon of gasoline imported into, or manufactured, sold, transferred, used, consumed or produced in Puerto Rico, and to make all except the penal provisions of this act retroactive to July 1, 1931. To authorize the establishment of bonded warehouses for gasoline and other petroleum products brought into Puerto Rico for redistribution outside of the Island for purposes related to the defense of the United States of America during the present state of war, and to exempt from payment of local excise taxes for the duration of the war such products stored therein and subse-

quently withdrawa for the above mentioned purposes.

**Housing.**—To amend the Puerto Rico Housing Authority Law. This measure makes numerous changes and additions to the law in order to insure sufficient revenues to cover the annual subsidy pledge to the various housing authorities and to facilitate a long range program.

**Motor Vehicles.**—To suspend for the duration of the emergency the procedure provided by law for re-possession of conditionally sold motor vehicles, when these are devoted to the transportation of passengers or merchandise.

**The Second Special Session** of the Fifteenth Legislature convened on June 15, 1942, primarily for the purpose of clarifying ambiguities in the law passed at the regular session relative to the re-export of fuel oil and gasoline. A bill was approved to exempt, during the present state of war and until 90 days after cessation of hostilities, from payment of excise payments, the petroleum products distributed from Puerto Rico for use outside of the island from and after June 15, 1942. This law also provided for the establishment of bonded tanks and warehouses for the storing of such products, and for the reimbursement of such taxes as may have been paid on these products subsequent to the aforementioned date.

#### INTER-AMERICAN RELATIONSHIP

Puerto Rico's position as a strengthening link in the good neighbor policy, long recognized because of the island's Latin cultural heritage and its North American ties, was bulwarked during the year by insular legislative action. The University of Puerto Rico, studied often as a potential inter-American cultural center, was reorganized to remove it from partisan politics and to raise its curricular standards. An Institute of Tropical Agriculture was created to test modern farming methods from the north in a climate suitable for southern production. A School of Public Adminis-



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

tration was established to teach to the Latin people the technical skills of administrative government developed in the United States. Enabling legislation was enacted for a Group Hospital Plan, and the already established School of Tropical Medicine loaned its executive secretary, Felix Lamela, to help organize an Inter-American Hospital Association.

### THE PHILIPPINE ISLANDS

By B. W. THORON

DIRECTOR, DIVISION OF TERRITORIES AND ISLAND POSSESSIONS,  
DEPARTMENT OF THE INTERIOR

#### JAPANESE INVASION

The outstanding event of the year under review was the sudden invasion of the Philippines by Japanese armed forces on Dec. 8 (Manila time). On Jan. 2, 1942, the Japanese entered the city of Manila. Bataan fell on April 9. Effective resistance ended with the fall of Corregidor on May 6.

#### POLITICAL AND GOVERNMENTAL STATUS

The status of the Philippine Islands is that of an unincorporated territory of the United States. In reality, however, this legal status has been affected by the temporary loss by the United States of physical possession of and control over the Islands. Under the program provided by Congress in the Independence Act of 1934, complete independence of the Islands will be established in 1946. The act specifically sets forth the general powers and authority reserved to the United States during the transitory period of the Philippine Commonwealth Government.

The public debt may not exceed limits now or hereafter fixed by the Congress of the United States; trade relations with the United States continue to be governed exclusively by Congress; Philippine legislative acts affecting currency, coinage, imports, exports, and immigration do not become effective until approved by the President of the United States; foreign affairs remain under the direct supervision and control of the Uni-

ted States; all acts passed by the legislative body must be reported to the Congress of the United States; decisions of the courts of the Commonwealth government are subject to review by the Supreme Court of the United States; citizens and corporations of the United States enjoy in the Commonwealth of the Philippines all the civil rights of citizens and corporations of the Philippines.

The United States reserves the right to maintain military and other reservations in the Islands until independence and to occupy naval reservations and fueling stations after independence. There is also reserved to the United States the right to intervene under certain conditions set forth in the act. During the period of the Commonwealth Government a United States High Commissioner "shall be the representative of the President of the United States in the Philippine Islands."

#### CITIZENSHIP

Citizens of the Philippine Islands owe allegiance to and are under the protection of the United States but are not citizens thereof. Those who have had honorable service of not less than three years in the United States Army, Navy, Marine Corps, or Coast Guard may become citizens of the United States. For purposes of immigration the Philippine Islands are considered as a separate country, and the number of immigrants that may enter the United States therefrom during each fiscal year is limited to 50.

## THE PHILIPPINE ISLANDS

### GOVERNMENT ORGANIZATION— EXECUTIVE

Under the constitution drafted in accordance with the provisions of the Independence Act of 1934, the executive power was vested in the President of the Philippines elected by the Filipino people for a six-year term and ineligible for reelection. By an amendment to the Constitution, approved by the President of the United States on Dec. 2, 1940, the term of the President and of the Vice President was changed to four years; the tenure of the President was limited to eight consecutive years. The President controls all executive branches and has general supervision over local governments. He appoints all high officials of the Government and all minor officials not otherwise provided for. The President is commander-in-chief of the armed forces of the Philippines; in emergencies he may suspend the privileges of the writ of *habeas corpus* or place the Islands under martial law. He has power to grant reprieves and pardons and remit fines and forfeitures, after conviction, for all offenses, except in cases of impeachment.

There are nine executive departments. Three of the 12 cabinet members—Vice President, Secretary to the President, and Resident Commissioner in Washington—are without portfolio. The Auditor-General is appointed by the President for a ten-year term and is not eligible for reappointment. The Philippine Resident Commissioner to the United States is appointed by the President of the Philippines.

### GOVERNMENT ORGANIZATION— LEGISLATIVE AND JUDICIAL

Under the Philippine constitution, the legislative power was originally vested in a unicameral body called the National Assembly to meet every year in regular session for not more than 100 days. Under an amendment to the constitution, the Congress is composed of a House of Representatives of 98 members and a Senate of 24 members elected at large every six years. The membership of the House

of Representatives, apportioned on the basis of population, is elected by popular vote every four years. Special sessions are limited to 30 days. Close control and supervision over the natural resources of the Islands is given to the Congress. This body is empowered to legislate with reference to public lands, timber, and mining. Prior to 1935, legislation on these subjects required the approval of the President of the United States before becoming effective. Heads of departments may be heard before the Congress. Veto provisions are similar to those in the United States Constitution, except that the President may veto specific items in appropriation, tariff, and revenue bills.

The judicial branch of the Commonwealth Government is composed of the Supreme Court, Court of Appeals, Court of Industrial Relations, Courts of First Instance, justices of the peace courts, and municipal courts.

### GOVERNMENT-IN-EXILE

When it became evident that it would be impossible to prevent Manila from falling into the hands of the enemy, the United States High Commissioner and a part of his staff and President Quezon, with the Vice President and certain other members of his cabinet, transferred their offices to Corregidor. Most of them were later evacuated to Australia and then to Washington, D. C. On May 14 the President of the Philippines formally established in Washington a government-in-exile, composed of four cabinet members including the Philippine Resident Commissioner who serves without portfolio. The following month the Commonwealth Government was invited to join the United Nations, and President Quezon signed the pact on behalf of his country. On June 25 he took his seat in the Pacific War Council.

### UNITED STATES HIGH COMMISSIONER

During the last half of 1941 the functions of the office of the High Commissioner were substantially ex-

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

panded. Even before war broke out, the major part of the time of the High Commissioner and many of his staff was devoted to work connected directly or indirectly with the growing emergency. Administration of priorities was in part assigned to his office. Close attention was given to the Philippine sugar relief program. An important part of the work was concerned with matters connected with civilian defense and with economic controls, notably foreign funds control and export control, which was greatly expanded in scope. One of the major tasks undertaken in connection with foreign funds control was the taking of a census of alien-owned property in the Islands. Studies were made of relief necessary to avoid the forfeiture of property interests due to the inability of debtors in captured or besieged areas to pay their obligations.

The President of the United States transferred to the High Commissioner the powers and authority, in so far as the Philippines were concerned, conferred upon him in the First War Powers Act, 1941. These powers were very broad, including authority to take over for safekeeping securities, gold bullion, silver and paper currency and other reserves, and to take steps necessary to prevent their falling into the hands of the enemy. The work of collecting tons of this valuable metal and paper in Manila and transporting them to Corregidor, where they were counted and inventoried, was performed with the aid of army, navy, and other government officials under most trying conditions. The paper currency and treasury certificates were destroyed; the bullion and other valuables were loaded on a submarine at Corregidor and transferred in mid-ocean to another naval vessel. Every ounce of gold and every security accepted by the office of the High Commissioner for safekeeping reached the United States safely.

High Commissioner Francis B. Sayre arrived in Washington on March 23, 1942 and submitted his resignation to the President. It was

accepted as of June 30. Under date of Sept. 16, 1942, the President, by executive order, transferred to the Secretary of the Interior the functions of the United States High Commissioner.

### TRADE

Due to the outbreak of war with Japan, only the data covering overseas trade for the period January to September are available. During those nine months of 1941 the total external trade of the Islands amounted to \$245,532,635. This included gold and silver exports valued at \$38,542,914, which almost equaled their value for the whole of 1940. Of the total, \$111,606,186 represents imports and \$133,926,449 exports. Compared with 1940, both the import and export trade showed increases. The increase in exports was due primarily to higher prices received for copra, coconut oil, abaca, and other export products.

Little progress has been made toward the adjustment of Philippine economy to a position independent of preferences in the American market. Conditions during the period under review tended to make the Philippines more than ever dependent on the United States. As showing the predominance of the United States and its possessions in the trade economy of the Philippines, of the total overseas trade, \$203,526,409 (or nearly 83 per cent) represented trade with the United States and territories, as compared with 81 per cent in the corresponding period of 1940. Merchandise from the United States and territories was valued at \$90,113,868, representing 81 per cent of the total imports. Philippine shipments to the United States and territories, including gold and silver, were valued at \$113,412,541, or 85 per cent of the total exports. The increase in merchandise sent to the United States in the nine-month period was 18 per cent over that during the similar period of 1940.

Trade with Europe declined 70 per cent, but this was more than offset by gains in trade with the United

## THE PHILIPPINE ISLANDS

States, Asia, and Oceania. Increases were noted in the value of trade with all important Oriental countries except Netherlands East Indies. It should be noted, however, that a large part of this trade consisted of re-exports. Trade with the Axis and Axis-controlled countries practically disappeared; that with Great Britain declined to a little over half its value in 1940.

The total trade was 11 per cent above that for the corresponding period of 1940 and over 84 per cent of the trade value for the entire year 1940. Had conditions remained normal, there appears little doubt that total values for the year would have registered an all-time high. The Japanese invasion near the end of the calendar year 1941 brought about the abrupt suspension of trade relations between the United States and the Philippines.

### LEGISLATION

The Independence Act provided for an export tax on goods exported from the Philippines to the United States equivalent to 5 per cent of the United States duty, to go into effect on Jan. 1, 1941, with an annual progressive increase of an additional 5 per cent each Jan. 1 thereafter until a maximum of 25 per cent should be reached on Jan. 1, 1945, and would remain in force until July 4, 1946. The act provided also for certain declining quotas and for specified quantities of certain products to be exempt from the export duty. In response to petitions from the Commonwealth Government, Congress amended the Independence Act by suspending for the year 1942 the collection of the export tax and the progressive reduction of quotas, both of which would be resumed on Jan. 1, 1943. The act was passed on Dec. 22, 1941.

In an act passed June 21, 1941, Congress made applicable to the Philippines the wartime restrictions governing the departure of persons from and their entry into the United States.

The Sugar Act of 1937 was

amended by extending for three years (until June 30, 1945) authority for appropriation to the Commonwealth Government of taxes collected thereunder, and an additional sum of \$10,000,000 was appropriated by the Congress for public relief and civilian defense in the Islands for the fiscal year 1942.

A special session of the outgoing National Assembly was called in Manila on or about Dec. 11, 1941, but due to war conditions the resolutions reported to have been passed are not available. For the same reason, the new Congress of the Philippines, scheduled to convene on the fourth Monday of January, 1942, has held no session.

### FINANCES AND GENERAL CONDITIONS

On Sept. 30, 1941, the most recent date for which such information is available, monetary circulation amounted to \$100,222,716, well above the average. The general condition of the banks at that time was considered satisfactory. Collections of the United States excise tax on Philippine coconut oil continued to be turned over to the Commonwealth treasury. These collections, which have varied from \$16,000,000 to \$20,000,000 a year, have been an important part of the total income of the Commonwealth Government. At present the Commonwealth treasury has a relatively large amount of funds on deposit in the United States, consisting principally of currency reserves and bond sinking funds, and the balance in the special coconut oil tax fund. No authentic evidence of general conditions since the Japanese attack is available.

### LOYALTY OF FILIPINOS

Confirming assurances of loyalty given on several occasions prior to the outbreak of war, President Quezon, in his inaugural address on Dec. 30, 1941, pledged the Filipinos to "stand by America and fight until her victory is won." Throughout the four-month long Luzon campaign the



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

Filipino troops incorporated into the United States Army fought valiantly and to good effect in resisting the Japanese attack. Since then there have been reports of guerrilla warfare still being waged against the invaders in the more remote sections of the archipelago. In connection with the commemoration of the seventh anniversary of the Philippine Commonwealth, President Quezon declared that 20,000 Filipino soldiers had given their lives for freedom and 75,000

others had fought to the last. On that occasion the President of the United States, who earlier had stated that their gallant struggle "elicited the profound admiration of every American," said: "The brave peoples of the Philippines—their army and their civilians—stood shoulder to shoulder with the Americans in the fight against overwhelming odds—resolute to shed their blood in defense of their liberty. Richly do they deserve that liberty!"

### VIRGIN ISLANDS OF THE UNITED STATES

BY ROBERT M. LOVETT

GOVERNMENT SECRETARY, VIRGIN ISLANDS OF THE UNITED STATES

#### DESCRIPTION

The Virgin Islands, discovered by Columbus in 1493, comprise some 600 islands and cays of which 50 belong to the United States, the others to Great Britain. The area of the former is 132 square miles, with a population of 24,880, according to the census of 1940, of which approximately 10 per cent are described as white, 70 per cent as Negro, and the remainder as mixed, including possibly 10 per cent Puerto Ricans. The Virgin Islands as a whole are governed as a dyarchy, under the Department of the Interior. The Organic Act of 1936 prescribes that the Governor, Government Secretary, and Heads of Departments shall be appointed by the Federal Government. The two municipalities of St. Thomas-St. John and St. Croix, corresponding to the three largest islands, each elects by universal suffrage a Municipal Council, with power over municipal finances and appointment of municipal officers subject to review by the Governor.

#### COST OF THE ISLANDS

The Virgin Islands of the United States constitute the latest addition to its territorial possessions, acquired in 1917 from Denmark in consequence of the threat of compulsory sale to Germany, already foreshadowed by

evidences of German penetration. The purchase price was \$25,000,000. This sum is by far the largest ever paid by the United States for the acquisition of territory. It represents \$295 per acre, as compared with \$0.02 for Alaska, \$0.03 for California, \$0.04 for Louisiana, \$0.14 for the Philippines, and \$35 for the Canal Zone. Since the transfer it is estimated that the Federal Government has spent \$13,000,000 for the benefit of the Islands.

#### PLACE IN NATIONAL DEFENSE

The expenditure was justified. The strategic location of the islands at the angle formed by the east and west line of the Greater Antilles and the north to south curve of the Leeward and Windward Islands, reaching to the coast of South America, gives them a commanding position as a base for the defense of the entire Caribbean area, including the Panama Canal. Necessarily the islands have been subject to military occupation during the past two years. In St. Thomas the United States Marine Corps with Bourne Flying Field, the Navy with the Submarine Base at Krum Bay, and the United States Army are steadily enlarging their establishments. A system of military roads is being laid out to cover the island from Crown Mountain, its

## VIRGIN ISLANDS OF THE UNITED STATES

highest point, to the eastern and western extremities. The Army has also established a base at Mannings Bay on the south side of St. Croix with a magnificent flying field.

### LOCAL DEFENSE

The citizens of the Virgin Islands have taken an active part in preparations for their own defense. Councils for defense have been set up with executive direction vested in defense Coordinators who are charged with organizing the civilian population and maintaining collaboration with the military authorities to ensure unity of action. In both islands air raid precautions have been instituted with a full complement of air raid wardens, fire watchers, fire fighters, rescue and repair squads, corps for emergency shelters, canteens, ambulances, and first aid. The Red Cross has contributed greatly to these activities. Under its instruction and supervision first aid and home nursing courses were given, first aid centers organized and manned, and full equipment for an emergency hospital provided in a municipally owned building. Home Guards have been enlisted in both islands.

### ECONOMY

The war has emphasized the difference in economy between the islands of St. Thomas and St. Croix. The resources of St. Thomas are commercial, and an increase in trade and business has been brought about by defense activities of the Federal Government. The economy of St. Croix is agricultural, depending chiefly upon sugar cane (with rum as a by-product) and livestock. The island suffered from a prolonged drought until 1941, affecting both industries. As a mark of the difference, the budget of St. Thomas for the fiscal year 1942 included receipts of \$599,116.94 and expenditures of \$588,000. The budget of St. Croix showed receipts of \$196,485.72 and expenditures of \$301,845, with an appropriation of \$105,000 from the Federal Government.

St. Thomas was enabled to spend a large amount on social services and

higher salaries. Legislation was passed providing for a minimum wage and maximum hour scale, for workmen's compensation with a municipal insurance fund, for a Homestead Commission, and a Bureau of Agriculture for aid to farmers. The Council passed an ordinance fixing the status of teachers and their salaries, which in the fiscal year 1943 requires an appropriation of \$93,092. A recreation and playground division has been established in the Department of Public Welfare, and greatly increased assistance has been provided for the poor in the form of pensions.

In St. Croix the reduction of work on military roads has resulted in a renewed condition of unemployment, only partly relieved by WPA. The closing of the CCC Camp and the NYA Projects on July 1 was a severe blow. The stipends paid to the enrollees in these organizations were in large part available for the support of their families, and the loss is keenly felt throughout the islands.

### THE VIRGIN ISLANDS COMPANY

The Virgin Islands Company was established by the Federal Government in 1934 as the chief factor in the economic rehabilitation of St. Croix after the ruin wrought by prohibition. The operations of the company were designed to give employment to men and women in the cane fields and to compensate for the loss on sugar by the renewal of the rum industry historically connected with the island. During 1942 the Virgin Islands Company extended its sphere by assuming control and direction of the low cost housing, provided by Federal funds in both islands, the electric light and power plant in St. Thomas, and the plant in St. Croix provided by the Rural Electrification Administration, the abattoir in St. Croix and the municipal market in St. Thomas erected by Federal funds and opened for operation during the year, and the dock in St. Thomas originally owned by the West Indian Company and taken over in the interest of defense by the Federal Works Agency.

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

The Virgin Islands Company continues to be the main source of employment in St. Croix through labor in the cane fields provided by WPA. Labor difficulties postponed the harvesting of cane until May, and the planting of a new crop until September. The crop for 1942 yielded less than 1,500 tons of sugar, and the difficulty of disposing of this, as well as the lack of shipping for rum, militated against the profitable operation of the company. On the other hand, for the first time St. Croix has been granted benefits under the Sugar Act, and the export tax of \$6 per ton has been repealed.

The chief business of the dock in St. Thomas for several years has been the handling of bauxite brought in small steamers from Guiana and transshipped at St. Thomas in larger vessels to the Aluminum Company of America. This arrangement has lapsed. The lack of other shipping, owing to enemy action in the Caribbean, has caused a falling off in the general business of the dock which is said to be the largest in the world. The abattoir has given the animal industry of St. Croix a steady outlet owing to the demand for meat in St. Thomas and Puerto Rico. The municipal market in St. Thomas receives monthly shipments of meat from St. Croix, weekly supplies of fish from boats operating as far as Amegada, and vegetables raised by the local farmers. An increase in the production of vegetables in both islands is being stimulated as a measure toward

their self-subsistence and independence of imports.

### FOOD PROBLEMS

The problem of supplies of food and general merchandise was a serious one during the year in view of the shortage of shipping from the continent. The Civilian Food Reserve has set up stock piles of food for emergency in both islands. The Agricultural Marketing Administration has supplied food for relief workers and pensioners under the Stamp Plan, which is to be replaced by immediate distribution of commodities after Nov. 1. In October a general plan of cooperation between AMA and CFR was adopted, in accordance with which shipping will be allotted to the Virgin Islands and Puerto Rico for their needs in respect to food and general supplies.

### OTHER SUPPLIES AND PRICES

The operations of the Office of Price Administration have been extended to both St. Thomas and St. Croix and efficient organizations set up in both islands. The most serious deficiency in essential commodities exists in the case of petroleum products, especially gasoline and rubber tires. The distribution of both has been severely rationed. Obviously, because of their remoteness, the economy of the Virgin Islands will show a continuous recession during the war toward that of the more primitive period, aptly described as "horse and buggy days."

## THE DISTRICT OF COLUMBIA

BY W. REED WEST

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### LEGISLATION RESULTING FROM WAR

The effects of war make their outward appearance in Washington mainly in the crowded street cars and buses, the overflowing government buildings, and the scarcity of living accommodations, but, as in the coun-

try generally, life tends more and more to revolve around the war. Much of the legislation of Congress upon the District during 1942 was the direct or indirect result of war conditions.

Defects in the "blackout law" (see THE AMERICAN YEAR BOOK, 1941)

## THE DISTRICT OF COLUMBIA

were corrected (Public Law 699) by giving authority to the Commissioners to organize civilian defense units, and to requisition private property temporarily upon payment of just compensation or upon payment of half of the estimated just compensation with the right in the owner to sue for any additional amount due him. Owners of cars used in defense work are released from liability for damages caused by the drivers, and the District government and firms and individuals are released from liability for damages resulting from defense activities. Expenditures for medical and hospital care of injured defense workers are authorized, but the District is expressly relieved of responsibility for damages sustained by persons in defense work. Thus cases of injury to defense workers are left to be dealt with individually. In addition to specific powers granted in the act, the Commissioners are authorized generally to take any measures that may be necessary for the protection of persons and property in time of war. This authority was necessary because the Commissioners of the District do not have the broad police powers generally vested in municipal corporations.

### HOUSING

The Emergency Housing Act (see THE AMERICAN YEAR BOOK, 1941) discouraged private householders from renting rooms for fear that undesirable persons could not be ousted. As a result, that act has been amended so as to define a rooming-house as one in which rooms are rented to more than four persons (instead of to more than two persons as in the old act), and exempting non-housekeeping furnished rooms in a single dwelling occupied by the leaser or his family from the provisions of the act restricting the ousting of tenants. The intent is not to release these accommodations from the general provisions of the act, including price ceilings, but only to relieve the householder with a few rooms from the fear that undesirable ten-

ants could not be ousted without proving a legal nuisance (Public Law 715).

### AUTOMOBILE ACCESSORY THEFTS

The restrictions on certain automobile accessories, notably tires, have increased greatly the value of these articles to the owners, who might not be able to replace them at any price. Theft of such articles constitutes in some degree a hampering of the war effort, but the offense has been only a misdemeanor where the amount was below \$50, punishable by a maximum fine of \$200 or one year's imprisonment, or both. Under a new act (Public Law 489) it is made a felony to steal gasoline, lubricants, anti-freeze mixture, tires, rims, wheels, tire chains, batteries, or any other car equipment, valued less than \$50, with a penalty of imprisonment of not more than three years.

### PARKING AND TRAFFIC MEASURES

The growing inconvenience in Washington resulting from vehicles parked on the streets has led to the granting of authority to the Zoning Commission to require that new buildings be equipped with parking space for owners, tenants, or customers (Public Law 468). Another act has authorized the Commissioners to acquire and to operate and regulate off-street parking facilities, and to install parking meters on the streets. A parking agency of seven members is set up and, with certain exceptions, powers granted by the act to the Commissioners may be delegated to it (Public Law 454).

The traffic problem in Washington has been growing more acute each year and, while recent gasoline restrictions have held down the number of private cars on the streets, the increased population has made more necessary the free movement of street cars and buses. The Commissioners have been authorized to make a study of the question of providing subways for both streetcars and vehicular traffic (Public Law 491).



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

### THE COURTS

An important change was made in the composition, organization, and powers of certain lower courts of the District, after careful study by the Department of Justice which consulted with the judges involved and representatives of the bar association as well as with District officials. There was a general opinion that changes were needed. The new law (Public Law 512) consolidates the Municipal and Police courts as the Municipal Court for the District of Columbia, with ten judges and with a civil and criminal branch corresponding to the old Municipal and Police courts, and increases the jurisdiction of the court in civil cases to \$3,000, thus substantially relieving the United States district court in which more than one third of the verdicts have been for non-Federal litigation and in which seventy-five per cent of all settlements have been for less than \$1,000. The act provides that one of the judges shall be designated chief judge with broad administrative powers for the dispatch of court business. In addition, a Municipal Court of Appeals for the District of Columbia of three judges is set up to hear appeals as of right from the new Municipal Court and the Juvenile Court, whereas appeals from the old Municipal Court, Police Court, and Juvenile Court were permitted only on application. However, appeals from the small claims and conciliation branch and criminal judgments of less than \$50 must still be by application. The Juvenile Court and the small claims and conciliation branch of the Municipal Court are not otherwise affected. The present judges of the old Municipal and Police courts are to be appointed to the new Municipal Court until the conclusion of their terms. After a transition period the terms of the judges of both of the new courts are to be for ten years, with retirement after 20 years service, the annual allowance being the proportion of the salary at retirement that the judge's service bears to 30 years, but not to exceed the salary at retirement.

### SOCIAL LEGISLATION

The growth of interest in social activities is reflected in an act (Public Law 534) creating a Recreation Board of seven members. The Board is to choose a Superintendent of Recreation as its executive officer. The functions and personnel of the old Community Center and Playgrounds Department, previously controlled jointly by the Commissioners and the Board of Education, are transferred to the new board. Other social legislation extended the jurisdiction of the Board of Public Welfare so as to give it power to protect children born out of wedlock, power to assume responsibility for the care of dependent or neglected children on request of the parents or those responsible for the care of the children, and power to assume the care of children in need of temporary detention. This legislation also improves the law in a number of other respects (Public Law 397). The effective date of the employer merit-rating provisions of the Employment Compensation Act (see THE AMERICAN YEAR BOOK, 1935, 1940, 1941) was extended for another year to July 1, 1944 (Public Law 770).

### MISCELLANEOUS LEGISLATION

Minor deficiencies in the District income tax law were corrected in two acts (Public Laws 428 and 621); unauthorized parking on public and private property was prohibited (Public Law 401); janitors and custodians of the public schools were authorized to receive additional pay for extra services for selective-service boards (Public Law 641); or services for other non-recreational purposes of government agencies other than the Board of Education (Public Law 642); required the annual registration of physicians (Public Law 713); exempted drivers of ambulances and funeral cars from certain requirements laid upon taxicab drivers (Public Law 619); exempted school buses carrying children on visits to Washington and other occasional sight-seeing buses from license and

## THE DISTRICT OF COLUMBIA.

tax requirements (Public Law 399); increased the penalty for indecent exposure (Public Law 716); increased the powers of the Superintendent of Insurance in respect to taxicab insurance (Public Law 803); amended the fire regulations in regard to the equipment of buildings and increased the powers of the Commissioners in relation thereto (Public Law 838); authorized the use of public school buildings for day nurseries (Public Law 827); amended and simplified

the law upon the condemnation of insanitary buildings (Public Law 810); amended the law upon speeding where reckless driving is not involved, with the primary purpose of making it possible to forfeit collateral, and changed the penalties for driving without permit, with the intent of reducing the number of trials by jury (Public Law 776); and amended the tax laws so as to define more clearly the properties exempt from taxation (Public Law 846).

# PART THREE

## GOVERNMENTAL FUNCTIONS

### DIVISION VII

#### PUBLIC FINANCE AND TAXATION

#### NATIONAL FINANCE AND THE PUBLIC DEBT

BY WILLIAM J. CARSON  
PROFESSOR, UNIVERSITY OF PENNSYLVANIA

#### THE WAR PROGRAM BUDGET

National finance in 1942 reflected the demands of the economy in transition from a peacetime to a wartime basis. In his message to Congress early in January 1943 President Roosevelt said the Federal budget which he presented a year earlier for the fiscal year 1942-43 "was an instrument for transforming a peace economy into a war economy" and that the budget he was then presenting for the coming year 1943-44 represented "the maximum program for waging war." Total expenditures, he said, for the fiscal year ending June 1943 are estimated to be \$80,437,000,000, and in the fiscal year ending June 1944 they are expected to increase to \$104,129,000,000. Of these amounts estimated expenditures for war activities total \$74,000,000,000 in fiscal 1943 and \$97,000,000,000 in fiscal 1944.

On the basis of present legislation net receipts are estimated by the President to increase to \$22,976,000,000 in fiscal 1943 and to reach \$33,000,000,000 in fiscal 1944. On the basis of these figures the deficit to be financed by borrowing will be \$57,461,000,000 in fiscal 1943 and \$71,048,000,000 in fiscal 1944. At the end of June 1942 the Federal debt totaled

\$72,422,000,000; in June 1943 it is estimated to be \$134,830,000,000; and by the end of fiscal 1944 it is estimated to total \$210,549,000,000.

Table I summarizes the receipts, expenditures and deficit in fiscal 1942, and the estimated receipts, expenditures and deficit in fiscal 1943 and 1944.

#### FEDERAL EXPENDITURES

Examination of the table shows that expenditures in fiscal 1942 totaled \$32,491,000,000. In fiscal 1943 they are estimated at \$80,437,000,000 and in fiscal 1944 they are expected to reach \$104,129,000,000. Growth in outlays in these years is due entirely to the expansion in war activities. The amount of expenditures estimated for different war activities in 1943-1944 was summarized by President Roosevelt in his budget message as follows:

With the exception of larger expenditures for interest on the public debt and increased outlays for veterans' pensions and benefits, "non-war" expenditures are expected to be somewhat lower in fiscal 1943 than in 1942 and are estimated to be still lower in fiscal 1944. The most important reductions in 1944 are expected to be in outlays for work relief and general

# NATIONAL FINANCE AND THE PUBLIC DEBT

## TABLE I

### GENERAL BUDGET SUMMARY— COMPARATIVE STATEMENT OF RECEIPTS AND EXPENDITURES

General and Special Accounts

Classification	Estimated, 1944	Estimated, 1943	Actual, 1942
<b>Receipts (based on present legislation):</b>			
Direct taxes on individuals.....	\$13,750,600,000	\$ 8,338,500,000	\$3,695,340,677.95
Direct taxes on corporations.....	14,915,000,000	10,070,000,000	5,021,578,715.65
Excise taxes.....	3,915,380,000	3,678,110,000	3,127,631,235.25
Employment taxes.....	1,982,200,000	1,472,300,000	1,194,046,888.42
Customs.....	204,300,000	252,600,000	388,948,426.88
Miscellaneous receipts.....	639,215,000	740,745,000	277,376,297.34
Adjustment to daily Treasury statement basis.....	.....	.....	— 37,007,417.65
<b>Total receipts.....</b>	<b>\$35,406,695,000</b>	<b>\$24,552,255,000</b>	<b>\$13,667,914,823.84</b>
<b>Deduct:</b>			
Net appropriations for Federal old-age and survivors' insurance trust fund.....	1,525,450,000	1,076,180,000	868,853,202.82
Post-war credits for excess-profits tax and Victory tax.....	800,000,000	500,000,000	.....
<b>Net receipts, general and special accounts.....</b>	<b>\$33,081,245,000</b>	<b>\$22,976,075,000</b>	<b>\$12,799,061,621.02</b>
<b>Expenditures:</b>			
War activities.....	\$97,000,000,000	\$74,000,000,000	\$26,011,065,089.39
Interest on the public debt.....	3,000,000,000	1,850,000,000	1,260,085,336.46
<b>Other activities:</b>			
Legislative establishment.....	27,455,600	27,042,300	27,268,973.19
The judiciary.....	12,863,500	12,118,100	11,537,736.82
Executive office of the President..	3,049,190	2,568,085	2,347,031.83
Civil departments and agencies..	862,760,733	892,981,648	774,573,471.24
Post Office deficiency.....	.....	3,789,712	17,729,774.85
District of Columbia—United States share.....	6,000,000	6,000,000	6,000,000.00
General Public Works Program..	354,612,300	576,752,350	619,661,880.05
Veterans' pensions and benefits..	879,360,000	613,756,000	551,885,121.65
Aids to agriculture.....	889,319,000	1,010,463,120	1,092,035,673.59
Aids to youth.....	.....	16,000,000	250,512,659.12
Social security program.....	502,705,000	522,049,500	496,474,723.91
Work relief.....	5,436,000	344,764,200	937,272,410.80
Refunds.....	127,522,000	102,001,100	94,399,952.79
Retirement funds.....	440,041,600	322,041,800	243,735,262.00
Statutory public debt retirement..	5,000,000	5,000,000	94,722,300.00
Supplemental items, regular.....	13,000,000	130,000,000	.....
<b>Total other activities (including statutory public debt retirement).....</b>	<b>4,128,924,923</b>	<b>4,587,327,915</b>	<b>5,220,156,971.84</b>
<b>Total expenditures, general and special accounts.....</b>	<b>\$104,128,924,923</b>	<b>\$80,437,327,915</b>	<b>\$32,491,307,397.69</b>
<b>Excess of expenditures, general and special accounts..</b>	<b>\$71,047,679,923</b>	<b>\$57,461,252,915</b>	<b>\$19,692,245,776.67</b>

public works. Because of present high levels of employment the Work Projects Administration is recommended by the President for elimination in fiscal 1944 and expenditures for general public works are expected to be greatly curtailed. Reductions of "non-war" expenditures have long been advocated by many students of public finance as essential steps towards preventing inflation in wartime. The progress that is now being made in this direction will be viewed favorably by them, although the amounts involved are small when compared with the magnitudes of the expenditures for activities incidental to the current war.



## VII. PUBLIC FINANCE AND TAXATION

TABLE II

### WAR OUTLAYS IN 1943 AND 1944

(billions)

	Fiscal, 1943	Fiscal, 1944
Munitions.....	\$43	\$66
Military and civilian pay, subsistence and travel.....	15	21
Industrial construction.....	6	2
Other construction.....	8	5
Other, including agricultural lend-lease.....	5	6
Total.....	\$77	\$100

### REVENUE AND TAXATION

Total receipts by the Treasury during the fiscal year 1942 were \$13,668,000,000. In 1943 receipts are expected to be \$24,552,000,000 and in 1944 they are estimated on the basis of present legislation to approximate \$35,400,000,000, nearly six times the amount in 1940. Increased revenues in 1942, as compared with 1941, and larger expected receipts in 1943 and 1944 are due in part to the continuing increase in industrial activity, with its accompanying increase in employment, income, and national buying power; in part to higher tax rates in the rev-

enue acts of 1941 and 1942; and in part to other changes in legislation to increase the number of individual tax payers. In fiscal 1942, income and excess profits taxes provided the largest source of revenue and in 1943 and 1944 they are expected to yield an increasingly large part of total receipts.

### GROWTH AND DISTRIBUTION OF THE PUBLIC DEBT

At the close of the fiscal year ended June 30, 1942 the Federal public debt was \$72,422,000,000. In the remaining months of the calendar year 1942 it increased month by month, and at the end of November it amounted to \$96,116,000,000. By June 30, 1943, the end of the fiscal year 1943, it is estimated to total \$134,830,000,000. A year later, June 30, 1944, it is expected to reach \$210,549,000,000. Table III shows the effect of financing operations on the public debt in fiscal 1942 and estimates of the effect of operations in fiscal 1943 and 1944.

Distribution of the Federal debt, direct and fully guaranteed, among different investors on June 30, 1942 and 1941 is shown in Table IV.

On the basis of figures shown in the above table for June 30, 1942, com-

TABLE III

### EFFECT OF OPERATIONS ON THE PUBLIC DEBT

	Estimated, Fiscal 1944	Estimated, Fiscal 1943	Actual, Fiscal 1942
Public debt at beginning of year.....	\$134,830,142,661.22	\$72,422,445,116.22	\$48,961,443,535.71
Net increase in public debt during year:			
General and special ac- counts, excess of expendi- tures over receipts.....	\$71,047,679,923.00	\$57,461,252,915.00	\$19,692,245,776.67
Government corporations and agencies, net expendi- tures.....	4,774,123,000.00	5,041,995,000.00	3,624,724,254.35
Trust accounts, excess of re- ceipts over expenditures..	-34,795,035.00	+11,449,630.00	-119,219,304.17
Statutory public debt retire- ments.....	-5,000,000.00	-5,000,000.00	-94,722,300.00
Change in Treasury balance.	-63,000,000.00	-102,000,000.00	+357,973,153.66
Net increase in public debt during year...	\$75,719,007,888.00	\$62,407,697,545.00	\$23,461,001,580.51
Public debt at end of year...	\$210,549,150,549.22	\$134,830,142,661.22	\$72,422,445,116.22

# NATIONAL FINANCE AND THE PUBLIC DEBT

TABLE IV

## DISTRIBUTION OF U. S. GOVERNMENT SECURITIES, DIRECT AND FULLY GUARANTEED

June 30, 1941 and 1942.

(millions of dollars)

	June 30, 1941	June 30, 1942	Change
Total.....	54,747	76,517	+21,770
Held by Federal agencies and trust funds—			
Special issues.....	6,120	7,885	+1,765
Public issues.....	2,362	2,726	+364
Held by Federal Reserve Banks.....	2,184	2,645	+461
Privately held:			
Total.....	44,081	63,261	+19,180
Member banks.....	18,078	24,098	+6,020
Other commercial banks.....	2,020	2,290	+70
Mutual savings banks.....	3,430	3,890	+460
Insurance companies.....	6,900	8,800	+1,900
Other investors—			
Marketable issues.....	9,400	11,100	+1,700
Non-marketable issues.....	4,300	13,100	+8,800

mercial banks and the Federal reserve banks together hold about one-third of the Federal debt; other investors (corporate and individual) hold a little less than one-third. The remaining amount is distributed among all other holders, with insurance companies and Federal agencies and trust funds being the largest single holders of the group. Increases in holdings by member banks and "other investors" between June 1941 and June 1942 accounted for about two-thirds

of the growth in holdings of all investors.

### BOND PRICES AND YIELDS

Rates at which the Federal debt was financed continued low in 1942 but yields of both long term and short term issues averaged slightly higher than in 1941. In that year, when yields on long term bonds averaged only slightly lower than the year before and yields on new issues of Treasury bills increased, a change in

TABLE V

## AVERAGE YIELD ON SHORT-TERM OBLIGATIONS OF THE U. S. GOVERNMENT

	1940		1941		1942	
	New Issues of Treasury Bills	3-5 Year Treasury Notes	New Issues of Treasury Bills	3-5 Year Treasury Notes	New Issues of Treasury Bills	3-5 Year Taxable Notes
January.....	.001	.47	(1)	.43	.214	.96
February.....	.004	.46	.034	.55	.250	.93
March.....	(1)	.42	.089	.50	.212	.93
April.....	.003	.45	.092	.52	.299	.98
May.....	.042	.65	.082	.44	.364	1.03
June.....	.071	.76	.089	.38	.363	1.15
July.....	.009	.57	.097	.37	.368	1.20
August.....	.019	.58	.108	.33	.370	1.25
September.....	.021	.48	.055	.34	.370	1.27
October.....	(1)	.43	.049	.41	.372	1.28
November.....	.003	.34	.242	.57	.371	1.28
December.....	(1)	.35	.298	.64	.363	1.34

<sup>1</sup> Rate negative.

## VII. PUBLIC FINANCE AND TAXATION

the downward trend of yields developed. In 1942 this change in trend became still clearer and suggested that the low point in yields definitely had been passed. Rates, however, are still low and it is likely that every effort will be made by public authorities to keep them near present levels so long as the volume of war financing is large.

Tables V, VI and VII show the course of yields and prices by months of the three years 1940, 1941, and 1942.

TABLE VI

### AVERAGE YIELD ON LONG-TERM U. S. BONDS

	1940	1941	1942
January.....	2.30	1.99	2.01
February.....	2.32	2.10	2.09
March.....	2.25	2.01	2.00
April.....	2.25	1.96	1.98
May.....	2.38	1.92	1.97
June.....	2.39	1.91	1.97
July.....	2.28	1.90	2.00
August.....	2.25	1.94	2.02
September.....	2.18	1.94	2.03
October.....	2.10	1.88	2.05
November.....	1.97	1.85	2.06
December.....	1.89	1.96	2.09

TABLE VII

### UNITED STATES GOVERNMENT BOND PRICES

(Monthly averages of daily figures)

	1940	1941	1942
January.....	106.0	110.4	110.1
February.....	105.7	108.8	108.9
March.....	106.7	110.1	110.2
April.....	106.7	110.8	110.5
May.....	104.9	111.4	110.7
June.....	104.8	111.5	110.7
July.....	106.3	111.7	110.2
August.....	106.7	111.1	109.9
September.....	107.7	111.1	109.8
October.....	108.8	112.0	109.5
November.....	110.7	112.4	109.4
December.....	111.8	110.7	109.4

### PROBLEMS OF FISCAL POLICY IN 1943 AND AFTERWARDS

As the economy in 1941 and 1942 changed from a peacetime to a war basis and as further shifts will be required in 1943, the primary task of fiscal policy, as expressed in financial

measures and the measures of direct compulsion in connection with the war, has been and will continue to be fourfold:<sup>1</sup> (1) To bring about the fullest practicable use of our productive resources; (2) To facilitate a prompt and adequate diversion of the necessary resources to military needs; (3) To distribute the sacrifices among our citizens in ways that most nearly accord with publicly accepted ideas of fairness; (4) To leave as a post-war legacy as little disorder as possible in the economic structure.

Avoidance of inflation necessarily has been and continues to be a major concern of fiscal policy in accomplishing these objectives, for if inflation is marked their achievement will be most difficult.

During the first full year of the war and the two and a half years from June 1940, when rearmament began, through December 1942, these objectives were accomplished reasonably well. In 1943, however, as annual expenditures approach \$100,000,000,000 and the public debt nears \$200,000,000,000, avoidance of inflation is likely to be more difficult, and the tasks of fiscal policy will be immeasurably harder.

In addition to the developments that emphasize the growing importance of fiscal policy noted in the closing paragraphs of this section of THE AMERICAN YEAR BOOK for 1942, it is necessary to point out that developments in 1942 and prospects for 1943 serve to stress still further the central position that fiscal problems now occupy in economic organization. Never has the country assumed such a tax load as now, never have its expenditures approximated present amounts, and never has it piled up public debt at such a rate. All the issues of public finance as they affect private citizens, business enterprises, and the Federal Government have risen to a higher order of importance, and the reaction of wise or unwise policies upon the national welfare have become more drastic. The prob-

<sup>1</sup> Crum, W. L., Fennelly, J. F., and Seltzer, L. H., *Fiscal Planning for Total War*, National Bureau of Economic Research, 1942.

## STATE FINANCES AND TAXATION

lems that the field offers demand increasing attention of students, legislators, and public administrators and managers of enterprise, and can only be handled by the continuing efforts of all.

## STATE FINANCES AND TAXATION<sup>1</sup>

BY CATHERINE G. RUGGLES  
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### EXPENDITURES

Expenditures of state governments in 1941, the last year for which data are available, were about 21 per cent of the expenditures of all governmental units in the United States. Expenditures of these governments were \$5,655,318,000, or 117 per cent greater than they were in 1932. This sum includes expenditures of \$818,778,000 made with funds received from other levels of government and payments of \$1,751,014,000 by the states to other levels of government. The increase in expenditures in these years was greater for welfare purposes than for any other purpose. Expenditures for old age and unemployment insurance alone constituted over 26 per cent of state expenditures. These expenditures, together with those for hospitals, relief, public

assistance and institutional programs constituted over 45 per cent or almost one half of the total. The next largest single item of expenditure was highways, which made up over one-fifth of the total. Schools accounted for 7 per cent, while expenditures for general administrative, legislative, and judicial purposes, which may be considered overhead expenses of state government, accounted for about 5 per cent of the total.

### REVENUE

The revenue of state governments in 1941 represented almost 27 per cent of the revenue of all governmental units. State revenue in 1941 was \$4,961,213,000 or about 129 per cent greater than in 1932 and almost 13 per cent greater than the previous year. State governments also re-

### STATE EXPENDITURES \*

(in millions)

Function	1941	1932	Per Cent Change 1932-41
Total expenditures (including debt retirement) . . . . .	\$5,655.3	\$2,605.5	117.1
Total cost payments (excluding debt retirement) . . . . .	5,375.1	2,495.5	115.4
General administrative, legislative, and judicial . . . . .	189.7	144.2	31.5
Protection and United States Defense . . . . .	140.1	91.4	53.4
Transportation (highways and waterways) . . . . .	1,189.8	993.2	19.8
Agriculture and natural resources . . . . .	114.0	82.7	37.8
Health and sanitation . . . . .	61.7	40.4	34.3
Welfare, hospitals, and corrections . . . . .	1,239.3	322.6	284.1
Old age and unemployment insurance . . . . .	1,026.9	.....	.....
Schools . . . . .	1,009.5	629.7	60.3
Libraries . . . . .	4.5	2.9	57.0
Recreation . . . . .	14.6	20.9	-27.2
Contributions to credit corporations and public-service enterprises . . . . .	3.1	.....	.....
Interest . . . . .	122.3	108.5	12.7
Debt retirement . . . . .	280.3	110.0	154.8
Miscellaneous . . . . .	259.5	59.8	333.7

\* *Financing of Federal, State, and Local Governments: 1941*, Bureau of the Census.



## VII. PUBLIC FINANCE AND TAXATION

ceived \$785,358,000 from other units of government and paid \$1,697,814,000 to other levels of government, leaving them \$4,048,737,000 for their own purposes. The increase in revenue from tobacco taxes in these years, more than 600 per cent, was greater than the increase in revenue from any other source. This was a reflection of the increased use of tobacco taxes as a source of state revenue. Individual income taxes produced about 245 per cent and corporation income

taxes about 144 per cent more in 1941 than in 1932. Revenue from gasoline taxes increased 71 per cent, while receipts from inheritance, estate, and gift taxes decreased 19 per cent, and those from property taxes decreased 23 per cent. State public service enterprises produced \$283,015,000 in 1941 as compared with \$10,179,000 in 1932. This increase was accounted for almost entirely by the establishment of state liquor stores in 16 states.

Preliminary figures for 1942 indicate, as noted above, that state revenues increased almost 13 per cent in 1942. Almost one-half of state revenues in 1942 was derived from sales taxes. The tax on motor fuels alone produced almost one-fifth of state revenue. Taxes for unemployment compensation, which constituted over 21 per cent of total revenue, were the next most important source of revenue. License and privilege taxes and permits produced over 13 per cent of the total. Both the corporation net income tax and the individual income tax were more productive than the property tax. The increase in revenue from the corporation income tax of about 51 per cent was greater than that in any other source of revenue. It was a reflection of the accelerated pace of business in a war economy. It has been observed that "although those states which received the largest share of orders for the manufacturing of war materials were well to the fore and reported substantial dollar returns from corporate income taxes, there were equal or even greater percentage gains from areas which were less industrial." The larger volume of production was also reflected in greater employment and in an increase of about 24 per cent in unemployment compensation taxes.

The increase in revenue from individual income taxes was only about 3 per cent. Gains averaging 42 per cent, however, were made in 25 of the 33 states levying a tax on individual incomes. In both Arkansas and Mississippi, where the rates had been increased, the revenue practically doubled. Revenue from this tax de-

### PERCENTAGE DISTRIBUTION OF STATE EXPENDITURES: 1941\*

Function	Percents that Functions are of Total Expenditures
Function	Percents that Functions are of Total Expenditures
Total expenditure (inclusive of debt retirement).....	100.0
Total cost payments (exclusive of debt retirement).....	93.9
General administrative, legislative, and judicial.....	4.9
Protection.....	3.4
Military forces.....	—
Police.....	1.1
Fire.....	.2
Inspection and other.....	2.1
Transportation.....	21.7
Highways.....	21.7
Waterways and other.....	—
National resources.....	2.9
Agriculture.....	2.2
Forests, reclamation, floods, and other.....	.7
Health.....	1.5
Hospitals.....	6.6
Sanitation.....	—
Corrections.....	2.2
Welfare.....	12.4
Work relief.....	—
General relief.....	2.4
Other public assistance.....	8.6
Institutional and other.....	1.4
Old age and unemployment insurance.....	26.3
Administration.....	1.8
Benefits.....	10.7
Net additions to reserves.....	13.8
Schools.....	7.0
Libraries.....	.1
Recreation.....	.4
Pensions.....	1.4
Contributions to credit corporations and public-service enterprises.....	.1
Interest.....	2.8
Debt retirement.....	6.1
Miscellaneous.....	.3

\* Financing Federal, State, and Local Governments: 1941, Bureau of the Census.

# STATE FINANCES AND TAXATION

## STATE TAX COLLECTIONS IN 1942, BY TYPE OF TAX, WITH CORRESPONDING COLLECTIONS IN 1941\*

Type of Tax	Amount Collected (in millions)		Per Cent Change 1941 to 1942	Per Cent Distribution of Collection by Type of Tax, 1942
	1942	1941		
Total collections.....	\$4,951.5	\$4,387.8	+12.8	100.0
Sales and gross receipts taxes.....	2,233.3	(1,790.9)	NC†	45.1
General sales, use, or gross receipts taxes.....	626.1	545.7	+14.7	12.6
Motor fuels.....	937.9	908.7	+ 3.2	18.9
Alcoholic beverages.....	252.3	215.5	+17.1	5.1
Tobacco.....	130.0	103.1	+26.1	2.6
Other.....	287.0	(18.0)	NC†	
License and privilege taxes, and per- mits.....	653.3	(837.1)	NC†	13.2
Alcoholic beverages.....	56.5	57.4	- 1.6	1.1
Chain stores.....	4.0	5.4	-25.9	.1
Motor vehicle and operator licenses	417.2	407.2	+ 2.5	8.4
Hunting and fishing.....	22.6	22.2	+ 1.8	.5
Other.....	153.0	(344.9)	NC†	3.1
Individual income tax.....	245.0	237.8	+ 3.0	4.9
Corporation net income tax.....	277.3	183.1	+51.4	5.6
Property taxes.....	262.0	257.8	+ 1.6	5.3
General.....	166.8	157.0	+ 6.2	3.4
Selective.....	95.2	100.8	- 5.6	1.9
Death and gift taxes.....	113.5	120.6	- 5.9	2.3
Severance taxes on natural products..	61.8	56.7	+ 9.0	1.2
Other taxes.....	26.1	(29.0)	NC†	.5
Unemployment compensation taxes ‡	1,079.2	874.8	+23.4	21.8

\* *State Finances: 1942*, Vol. 2, No. 2, Supplement, Oct. 20, 1942, Bureau of the Census.

† Noncomparable. The Bureau of the Census revised its tax classification in 1942, separating license taxes from taxes on gross receipts or the equivalent, and classifying gross receipts taxes with taxes on sales. This change particularly affected public utilities, insurance companies, amusements and admissions. As a result a few tax groups for 1942 can not be compared with 1941.

‡ Data for unemployment compensation taxes represent net collections deposited in State clearing accounts as reported by the Social Security Board.

clined in six states, the decline in New York amounting to \$24,000,000. As a result of increased purchasing power the yield of general sales and gross receipts taxes increased almost 15 per cent in spite of a decrease in rates in Illinois and South Dakota, and the repeal of the sales tax in Louisiana. Increased purchasing power also accounted in part for an increase of about 26 per cent in the revenue from taxes on tobacco, and one of about 17 per cent in the revenue from alcoholic beverages. The increased yield of these two taxes was also due in part to the imposition of higher rates, and the use of tobacco taxes by a larger number of states. Taxes on motor fuel increased 3.2 per cent in spite of the fact that 10 states had decreased revenue from this source, while receipts from motor vehicle licenses increased only 2.5 per

cent. The increase in property taxes was slight, amounting to only 1.6 per cent. The yield of death and gift taxes, on the other hand, decreased 6 per cent. A reduction of chain store taxes in Florida contributed largely to the decline of about 26 per cent in these taxes.

Numerous changes in tax laws were made for the benefit of persons in the armed forces. All persons in the military services are to be exempt from the poll tax and road taxes in South Carolina. In Kentucky property taxes do not have to be paid by those in the armed forces until one year after the end of the war or after the termination of military service, whichever is earlier. New Jersey has exempted those in the armed forces from the poll tax and has given them a \$500 property tax exemption until six months after the end of the war.

## VII. PUBLIC FINANCE AND TAXATION

Neither poll nor property taxes have | over, and no penalties or interest are  
to be paid by anyone in the armed | to be required. Income taxes do not  
forces in Virginia until the war is | have to be paid by those in the armed

### SALES TAXES AND GROSS INCOME TAXES

STATE	TAX
Alabama.....	2% of gross receipts of retail sales, 5% on sale of automobiles; extends to amusements.
Arizona.....	2% of gross receipts of retail sales of tangible personal property; extends to other kinds of business at rate of .25%-2%.
Arkansas.....	2% of gross receipts of retail sales of tangible personal property; extends to amusements, public utilities, transmission services and printing.
California.....	3% of gross receipts of retail sales of tangible personal property.
Colorado.....	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and to meals.
Connecticut.....	\$1 on each \$1000 of gross income of unincorporated retailers; 25¢ on each \$1000 of gross income of unincorporated wholesalers; extends to unincorporated motor transportation, amusement, and manufacturing business at \$1 per \$1000 of gross income.
Delaware.....	.1% of aggregate cost value of merchandise purchased by merchants in excess of \$5000; .025% of gross receipts of manufacturers; .1% of gross receipts of contractors not over \$100,000 and .05% of excess over \$100,000; .2% of aggregate cost value of commodities purchased by wholesalers of grain, fruits, and vegetables.
District of Columbia..	.1-4% of gross receipts in excess of \$200, depending upon difference between cost of goods sold and sale price.
Illinois.....	2% of gross receipts from retail sales of tangible personal property; 3% on gross receipts of public utilities.
Indiana.....	.25% of gross income from wholesale sales; .5% of gross income from retail sales; .25% of income from display advertising; 1% of income from other sources.
Iowa.....	2% of gross receipts from retail sales of tangible personal property; extends to amusements and public utilities.
Kansas.....	2% of gross receipts from retail sales of tangible personal property; extends to public utilities, amusements, meals and drinks.
Louisiana.....	1% of gross receipts of retail sales of tangible personal property.
Michigan.....	3% of gross receipts of retailers; extends to public utilities.
Mississippi.....	2% of gross receipts of retailers; .125% of gross receipts of wholesalers; extends to other kinds of business at rate of .25%-2.5%.
Missouri.....	2% of gross receipts of retail sales of tangible personal property; extends to amusements, public utilities, charges for rooms, meals, and drinks.
New Mexico.....	2% of gross receipts of retailers; .125% of gross receipts of wholesalers; extends to other kinds of business at .25%-1%.
North Carolina.....	3% of gross receipts of retailers; .05% of gross receipts of wholesalers.
North Dakota.....	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and amusements.
Ohio.....	3% of gross receipts of retail sales of tangible personal property.
Oklahoma.....	2% of gross receipts of retail sales of tangible personal property; extends to public utilities; amusements and other kinds of business.
Pennsylvania.....	1 mill on each \$1 of gross receipts of retailers; .5 mills on each \$1 of gross receipts of wholesalers.
South Dakota.....	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and amusements.
Utah.....	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, lodgings and meals.
Virginia.....	Tax on retailers of \$10 on sales of less than \$1000, \$20 on sales between \$1000 and \$2000 and 13¢ per \$100 on sales in excess of \$2000, tax on wholesalers of \$50 on each \$10,000 of purchasers and 13¢ per \$100 on those in excess of \$10,000.
Washington.....	3% of gross receipts of retail sales of tangible personal property.
West Virginia.....	.5% of gross receipts of retailers; .15% of gross receipts of wholesalers; 1-6% of gross income of other kinds of business.
Wyoming.....	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, lodging and meals.

# STATE FINANCES AND TAXATION

## TAX RATES IMPOSED BY STATES ON TOBACCO

As of November, 1941

State	Cigarettes	Cigars	Other Tobacco Products
Alabama.....	3¢ per pack of 10 to 20 cigarettes	\$1 to \$13.50 per 1,000, small cigars, 1¢ for each 10 cigars	Smoking tobacco, 1¢ for each 5¢ or fraction thereof of retail price; chewing tobacco and snuff, ½¢ on each 5¢ or fraction thereof of retail price
Arizona.....	2½ on each 20	5¢ cigars, 1¢ each 3; over 5¢, 1¢ each; small cigars, 2¢ each 20	Tobacco and snuff, 1¢ per ounce; cavendish, plug or twist, ¼¢ per ounce.
Georgia.....	1½ mills each*	\$1 to \$13.50 per 1,000; small cigars, 1¢ per 10	Annual permit, \$35 if not subject to license tax
Illinois.....	1 mill each		
Iowa.....	1 mill each*; annual license, \$50-\$100		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Kansas.....	2¢ per 20; annual license, \$1-\$100		
Kentucky.....	1¢ per 10¢ of retail selling price		
Louisiana.....	2½ mills each	\$3 to \$27 per 1,000; small cigars, .75 per 1000	Smoking tobacco, 1¢ per 5¢ of retail price up to 10¢; over 10¢ retail price, 1½¢ per 5¢ of retail price; annual license, 0-\$5
Maine.....	1 mill each; annual license, \$1-\$25		
Maryland.....	Annual license, \$10-\$50		
Massachusetts..	1 mill each; annual license; \$1-\$100		
Mississippi.....	1/5¢ each	1¢ for each 5¢ of retail selling price	Smoking tobacco, 1¢ for each 5¢ of retail selling price; permit fees, \$5-\$100
New Hampshire	15% of retail price	15% of retail price	15% of retail price; annual license, \$1-\$25
New York.....	1¢ for each 10		
North Dakota..	1½ mills each*		Snuff, 2¢ per 1¼ ounce; cigarette papers, ½¢ per 50; annual license, \$5-\$10
Ohio.....	1¢ per 10; annual license, \$25-\$100		
Oklahoma.....	2½¢ per 10	\$5 to \$10 per 1,000; small cigars, 1¢ per 10	Smoking and chewing tobacco, 20% of list price; annual license, \$5-\$100
Pennsylvania...	1¢ per 10; annual license, \$1		
Rhode Island...	1 mill each; annual license, \$1-\$25		
South Carolina.	1½ mills each	\$3-\$10 per 1,000; small cigars, 1¢ per 10	Snuff and chewing tobacco, 1¢ per 3 ounces; smoking tobacco, 1¢ per 5¢ of retail selling price
South Dakota..	1½ mills each*; annual license, \$5-\$20		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Tennessee.....	1½ mills each*	\$1-\$13.50; small cigars, 1¢ per 10	Tobacco and snuff, 5% of retail sales price
Texas.....	\$1.50 per 1,000* annual license, \$1-\$100		
Utah.....	1 mill each*; annual license, \$10		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Vermont.....	1 mill each; annual license, \$1-\$25		
Washington...	1 mill each*; annual license, \$1		
Wisconsin.....	1 mill each*; annual license, \$50		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50.

\* Special rates for oversize cigarettes.



## VII. PUBLIC FINANCE AND TAXATION

services in Virginia and Kentucky until 12 months after the war is over, and in New York and South Dakota they do not have to be paid until six months after the war is over. All four of these states have waived interest and penalties.

The various states follow no uniform policy in taxing tangible property sold to contractors operating under cost-plus-fixed-fee contracts with the Federal Government, in spite of the fact that the United States Supreme Court ruled on Nov. 10, 1941 that a state could levy a sales or use tax on such property.

### SALES TAXES

Louisiana enacted a retail sales tax of 1 per cent on sales of tangible personal property. This tax is due to expire after July 31, 1944. Two-thirds of the amount collected goes to the cities and one-third to the state. Massachusetts levied a tax of 5 per cent on meals costing one dollar or more. The revenue from this tax is to be used for old age assistance.

### USE TAXES

Use taxes have been enacted as a supplement to sales taxes. Since the Federal Constitution forbids any state to levy a tax on the sale of goods purchased in another state, many states that have sales taxes have levied a tax on goods that are

stored or consumed. In most states the tax rate is the same as that of the sales tax. Louisiana supplemented its newly adopted sales tax with a use tax. Mississippi repealed the use tax enacted in 1938 and levied a new one which applies to receipts from services as well as to tangible personal property.

### TOBACCO TAXES

New York continued its emergency cigarette tax until June 30, 1943. The 1941 Oregon law taxing cigarettes is to be voted on at the next election.

### GASOLINE TAXES

Every state imposes a tax on gasoline. The tax rate was increased in the District of Columbia from two to three cents a gallon. A law proposing an increase in the gasoline tax in Maine from 4 to 4½ cents was defeated at a special referendum election in December 1941. New York extended its additional tax on motor fuel until June 30, 1943. South Carolina levied a tax of 6 cents per gallon on motor vehicle fuel other than gasoline. Mississippi and Virginia levied a use tax on gasoline purchased outside the state.

### LIQUOR TAXES

Every state taxes liquor. Nine states have monopolies and sell liquor in state stores. In other states liquor

### GASOLINE TAX RATES

State	Cents per Gallon	State	Cents per Gallon	State	Cents per Gallon
Alabama.....	6	Maine.....	4	Oklahoma.....	5½
Arizona.....	5	Maryland.....	4	Oregon.....	5
Arkansas.....	6½	Massachusetts.....	3	Pennsylvania.....	4
California.....	3	Michigan.....	3	Rhode Island.....	3
Colorado.....	4	Minnesota.....	4	South Carolina.....	6
Connecticut.....	3	Mississippi.....	6	South Dakota.....	4
Delaware.....	4	Missouri.....	2	Tennessee.....	7
District of Columbia.....	3	Montana.....	5	Texas.....	4
Florida.....	7	Nebraska.....	5	Utah.....	4
Georgia.....	6	Nevada.....	4	Vermont.....	4
Idaho.....	5	New Hampshire.....	4	Virginia.....	5
Illinois.....	3	New Jersey.....	3	Washington.....	5
Indiana.....	4	New Mexico.....	5	West Virginia.....	5
Iowa.....	3	New York.....	4	Wisconsin.....	4
Kansas.....	3	North Carolina.....	6	Wyoming.....	4
Kentucky.....	5	North Dakota.....	4		
Louisiana.....	7	Ohio.....	4		

# STATE FINANCES AND TAXATION

## PERSONAL INCOME TAXES

State	Rate	Maximum Rate Applies to Income Over	Exemptions		
			Single	Head of Family	Dependents
Alabama.....	1.5-5	\$ 5,000	\$1,500	\$3,000	\$300
Arizona.....	1-4.5	9,000	10 <sup>a</sup>	20 <sup>a</sup>	4 <sup>a</sup>
Arkansas.....	1-5	25,000	1,500	2,500	400
California.....	1-15	250,000	1,000	2,500	400
Colorado.....	1-6 <sup>b</sup>	10,000	1,000	2,500	400
Delaware.....	1-3	10,000	1,000	2,000	200
District of Columbia..	1-3	20,000	1,000	2,500	400
Georgia.....	1-7	20,000	1,000	2,500	400 <sup>c</sup>
Idaho.....	1.5-8	5,000	700	1,500	200
Iowa <sup>d</sup> .....	1-5	4,000	10 <sup>a</sup>	20 <sup>a</sup>	5 <sup>a</sup>
Kansas.....	1-4	7,000	750	1,500	200
Kentucky.....	2-5	5,000	1,000	2,500	400
Louisiana.....	2-6	50,000	1,000	2,500	400
Maryland <sup>e</sup> .....	{ 2% on ordinary income 5% of investment income 6% on interest 1.5% on annuities & earned income 3% on capital gains plus 10% of tax		1,000	2,000	400
Massachusetts.....	{ 1-10 20,000 1 1/2-7 25,000 1-4 9,000 1-4 6,000		2,000	2,500	250 <sup>f</sup>
Minnesota.....	1-10	20,000	10 <sup>a</sup>	30 <sup>a</sup>	5 <sup>a</sup>
Mississippi.....	1 1/2-7	25,000	1,000	2,500	400
Missouri.....	1-4	9,000	1,000	2,000	200
Montana.....	1-4	6,000	1,000	2,000	300
New Hampshire.....	Average rate on real estate —applies to income from intangibles				
New Mexico.....	1-4	100,000	1,500	2,500	200
New York.....	3-7	9,000	1,000	2,500	400
North Carolina.....	3-7	10,000	1,000	2,000	200
North Dakota.....	1-15	15,000	500	1,500	200
Ohio.....	5% on income from in- tangibles		No exemption		
Oklahoma.....	1-9	8,000	850	1,700	300
Oregon.....	2-7 <sup>g</sup>	4,000	800	1,500	30 <sup>h</sup>
South Carolina.....	2-5 <sup>i</sup>	6,000	1,000	1,800	200
South Dakota.....	1-6	140,000	8 <sup>a</sup>	20 <sup>a</sup>	4 <sup>a</sup>
Tennessee.....	{ 4% on dividends from cor- porations 75 per cent of whose property is tax- able in the state; 6% on other dividends and in- terest		No exemption		
Utah.....	1-5	4,000	600	1,200	300
Vermont.....	4% on interest and divi- dends, 2% on other in- come <sup>j</sup>		1,000	2,000	250
Virginia.....	1.5-3	5,000	1,000	2,000	200
West Virginia.....	1-6	6,000	1,000	2,000	300
Wisconsin.....	1-7 <sup>k</sup>	12,000	8 <sup>a</sup>	17.50 <sup>a</sup>	4 <sup>a</sup>

<sup>a</sup> Deduction from tax.

<sup>b</sup> Plus 2% surtax on resident's income from dividends, royalties and interest.

<sup>c</sup> Denied deduction for minors having income exceeding \$400 from a trust.

<sup>d</sup> In case of dependent father, mother, or grandparent taxpayer may substitute for the \$5 deduction from the tax a deduction of \$300 in computing net income.

<sup>e</sup> 2 1/2% of allowable deductions and personal exemptions are deducted from gross tax.  
<sup>f</sup> Exemptions apply against earned income only. In case of income derived from various intangibles there shall be exempt \$1,000 "received by a person whose total income from all sources does not exceed \$1,000 during the year; but said exemption shall not be given to any married person if the combined income of both husband and wife from all sources exceeds \$1,500."

<sup>g</sup> Plus surtax of 2% on interest and dividends. Taxpayer's combined normal tax and surtax shall not exceed 8% of his net income.

<sup>h</sup> For surtax purposes, personal exemptions are \$500 for a single person, \$800 for a married person or head of a family.

<sup>i</sup> Plus surtax on interest and dividends of 3% on income between \$500 and \$800, 4% on income between \$800 and \$12,000, 5% on income over \$12,000. Exemption for surtax only is \$500.

<sup>j</sup> If income is derived wholly from interest and dividends, personal exemptions shall be \$400 for single persons and \$800 for married persons except when entire net income exceeds \$1,500 for single persons and \$3,000 for married persons.

<sup>k</sup> Plus certain temporary additional levies, including 60% of normal tax.

## VII. PUBLIC FINANCE AND TAXATION

### TAXES ON THE NET INCOME OF CORPORATIONS

State	Rate in %	State	Rate in %	State	Rate in %
Alabama.....	3 <sup>a</sup>	Maryland.....	1½	New York.....	6 <sup>i</sup>
Arizona.....	1-5	Massachusetts.....	2½ <sup>f</sup>	North Carolina.....	6
Arkansas.....	1-5	Minnesota.....	6 <sup>e</sup>	North Dakota.....	3-6
California.....	4 <sup>b</sup>	Mississippi.....	3-8	Oklahoma.....	6
Colorado.....	2	Missouri.....	2	Oregon.....	8 <sup>j</sup>
Connecticut.....	2 <sup>c</sup>	Montana.....	3 <sup>a</sup>	Pennsylvania.....	7
District of Columbia	5	New Hampshire.....	Average	South Carolina.....	4½ <sup>k</sup>
Georgia.....	5½ <sup>d</sup>		property	South Dakota.....	1-8
Idaho.....	1½-8		tax rate	Tennessee.....	3¾ <sup>l</sup>
Iowa.....	2		on in-	Utah.....	3 <sup>m</sup>
Kansas.....	2		tangible	Vermont.....	2
Kentucky.....	4		income	Virginia.....	3
Louisiana.....	6 <sup>e</sup>	New Mexico.....	2	Wisconsin.....	2-6 <sup>n</sup>

<sup>a</sup> Exemption of \$1,000.

<sup>b</sup> Minimum tax of \$25.

<sup>c</sup> \$10 minimum; tax is not to be less than one mill on sum of interest bearing debt, capital stock, surplus, undivided profits, and reserves, less deficit and stocks and securities held.

<sup>d</sup> Tax is not to be less than 2 per cent of entire net income plus compensation to officers and to stockholders owning in excess of 5 per cent of the stock after deducting \$10,000 and deficit if any.

<sup>e</sup> Exemption of \$3,000.

<sup>f</sup> Minimum is not to be less than 1/20 of 1 per cent on capital stock.

<sup>g</sup> Exemption of \$1,000.

<sup>h</sup> Minimum tax of \$5.

<sup>i</sup> Minimum tax of \$25 or one mill per \$1 of capital stock.

<sup>j</sup> Minimum tax of \$10.

<sup>k</sup> Minimum tax of 3 per cent of net income plus salaries and compensation paid to officers and to any stockholder owning in excess of 5 per cent of capital stock after deducting \$6,000 and any deficit reported for the year.

<sup>l</sup> Or tax on capital stock, whichever is greater.

<sup>m</sup> Minimum tax of \$10, tax is not to be less than 1/20 of 1 per cent of value of tangible property.

<sup>n</sup> Plus certain surtaxes.

is taxed by a system of licenses and by a tax per gallon or per barrel, or a tax on sales. The temporary increase in rates was continued in New York. New Jersey and Rhode Island made some changes in the license fees. The tax rates on liquor were altered in Virginia, Rhode Island, and Louisiana.

#### PROPERTY TAXES

In California the Attorney General ruled that personal property of the British Government located in California will be exempt from California taxes. A decision of the United States Circuit Court of Appeals in Kentucky held that a state may not tax postal savings deposits at the general property tax rate which is five times the rate imposed on bank deposits, since such taxation is discriminatory.

#### PERSONAL INCOME TAXES

Thirty-four states tax personal incomes. Three states, New Hamp-

shire, Ohio, and Tennessee, tax income from intangibles only, while four states, Maryland, Massachusetts, Oregon, and Vermont, tax intangibles at a higher rate than earned income. The salaries of Federal employees are subject to state income taxes in all states having such taxes. Massachusetts levied a surtax of 3 per cent on personal income taxes, certain dividend taxes, and certain corporation taxes. The revenue from these taxes, which are in addition to other surtaxes, is to be used for old age assistance. New York reduced personal income taxes for 1941 and 1942 by 25 per cent. Rates were also reduced in Mississippi.

#### TAXES ON BUSINESS

Rhode Island raised the tax rate on corporate excess from 40¢ to 50¢ per \$100 for 1942 and 1943. It also levied a tax upon unincorporated businesses of \$1 per \$1,000 of gross income from retail merchants, motor transporta-

# STATE FINANCES AND TAXATION

## ESTATE TAXES

State	Rate	Exemption
Alabama.....	4/5-16	\$100,000
Arizona.....	4/5-16	100,000
Colorado.....	4/5-16	100,000; tax levied only if estate exceeds \$250,000
Florida.....	4/5-16	100,000
Georgia.....	4/5-16	100,000
Mississippi.....	4/5-16	50,000
New York.....	1-20	20,000 to husband and wife, 2,000 to ancestors and descendants 5,000 to minor descendants
North Dakota.....	2-23	20,000 to husband and wife 2,000 to ancestors and descendants 2,000-5,000 to minor descendants
Oklahoma.....	1-10	15,000
Oregon.....	1-15	10,000
Rhode Island.....	1	10,000
Utah.....	3-10	10,000

tion, amusement or manufacturing business, where the gross receipts are over \$30,000 and 25¢ per \$1,000 of such gross receipts from wholesale mercantile business. New Jersey has amended the law levying a franchise tax on railroads. New York continued its emergency rate of 6 per cent and the normal rate of 4½ per cent, measured by incomes on corporations, as well as the 4 per cent emergency tax on unincorporated business. It also extended the additional emergency tax on stock transfers to June 30, 1943.

Various changes were made in the taxation of public utilities. New York extended the emergency tax on the gross income of utilities to June 30, 1943. Rhode Island increased its taxes on the gross earnings of public

utilities. Louisiana re-enacted its tax of ½¢ per 1,000 cubic feet of gas gathered in the state, and repealed the tax of 1 per cent on the gross sales of natural gas.

## TAXATION OF BANKS

Rhode Island was added to the states levying a tax on the net income of banks, making 16 states in all. Rhode Island levied a tax of 3 per cent on the net income of state banks or \$2.50 per \$10,000 of authorized capital, whichever yields the greater tax. On national banks the rate is 3 per cent of net income.

## INHERITANCE, ESTATE, AND GIFT TAXES

Nevada is the only state that does not tax estates or inheritances. Thirty-seven states and the District of Columbia levy inheritance taxes and 12 states levy estate taxes. Colorado and Rhode Island levy both an inheritance and an estate tax. The rates of the inheritance tax are higher for collateral than for direct heirs. The rates on direct heirs usually start at 1 or 2 per cent and are graduated in all but four states. The highest rate, 18 per cent, is found in Minnesota. In 12 states the highest rate does not exceed 5 per cent, in 29 states it does not exceed 10 per cent, and in only seven states is it over 10 per cent. New Hampshire levies a tax on collateral heirs but none on direct heirs. The initial rate on collateral

## TAXES ON THE NET INCOME OF BANKS

State	Rate %
Alabama.....	6
California.....	4-8
Colorado.....	6
Connecticut.....	2
Idaho.....	1.5-8
Massachusetts.....	6
Minnesota.....	8
New York.....	4½
North Dakota.....	4
Oklahoma.....	1-6
Oregon.....	8
Rhode Island.....	3
South Carolina.....	4½
South Dakota.....	3
Utah.....	3
Wisconsin.....	2-6 & surtax

\* Does not apply to savings banks.

† Does not apply to mutual savings banks.



## VII. PUBLIC FINANCE AND TAXATION

heirs does not exceed 3 per cent in 16 states and does not exceed 5 per cent in 31 states. The highest rate of 60 per cent on collaterals is found in Minnesota, but the highest rate is not more than half that much in 32 states; in 19 states it does not exceed 15 per cent and in ten states it does not exceed 10 per cent. Exemptions vary greatly from state to state, being lowered for collateral heirs than for direct heirs, and lower for parents and brothers and sisters than for a wife or child. The adjoining table indicates the rates and exemptions of the estate tax.

Massachusetts and New York continued the temporary increase in rates. Massachusetts also imposed an additional surtax of 3 per cent on all legacy and succession taxes on decedents dying in the year 1942 and thereafter, the revenue and which is to be used for old age assistance.

State taxation of inheritances has been further complicated by the decision of the United States Supreme Court allowing a state where a company is incorporated to tax a transfer of the corporation's stock when a non-resident stockholder dies. This decision allowed the state of Utah to

tax shares of the Union Pacific Railroad Company owned by the late Edward S. Harkness of New York.

Rhode Island levied a gift tax, bringing the number of states with gift taxes to 12. The rates of the Rhode Island tax range from 1 per cent on amounts up to and including \$25,000 to 7 per cent on amounts over \$1,000,000.

### CHAIN STORE TAXES

The Utah chain store tax passed by the legislature the previous year was defeated by a vote of more than two-to-one in the referendum at the November election. Taxes on chain stores generally begin with a tax of \$1 to \$10 on the first or second store in the chain and increase as the number of stores in the chain increases. The adjoining table indicates the maximum tax levied in each state.

### STATE DEBT

Total state debt on June 30, 1942 was \$3,211,000,000 or about 6 per cent less than a year earlier, according to preliminary figures. This decrease in debt was accompanied by a decrease of 5 per cent in interest payments. Nearly all of the debt, or \$3,053,000,000, was long term debt. Against this sum there were assets of \$490,000,000, making the net long term debt \$2,564,000,000. Surpluses were numerous. In spite of a reduction in personal income taxes and the repeal of the 1 per cent emergency tax on incomes, New York had a surplus of \$54,000,000. The surplus in Wisconsin almost doubled; it increased from \$17,000,000 in 1941 to \$31,000,000 in 1942. Whereas California had had a deficit of almost \$62,000,000 in 1941, it had an estimated surplus of \$25,000,000 in 1942.

These surpluses are to be accounted for both by an increase in tax collecting and by a decrease in expenditures for relief and in capital outlays as a result of restrictions on new construction. Some states have retired debt with funds which normally would be used for highway construction and maintenance, but many states are prevented from paying off debt be-

### TAXES ON CHAIN STORES

State	Maximum Tax	Applicable to Each Store
Alabama.....	\$112.50	20
Colorado.....	300	24
Delaware.....	\$10 plus 10% aggregate c in excess of	\$ for each \$100 of ost value of goods \$5,000.
Florida.....	400	15
Georgia.....	200	40
Idaho.....	500	19
Indiana.....	150	20
Iowa.....	155	50
Kentucky.....	200	250
Louisiana.....	550	500
Maryland.....	150	20
Michigan.....	250	25
Minnesota.....	350	150
Mississippi.....	300	250
Montana.....	200	4
North Carolina.....	250	200
South Carolina.....	150	30
South Dakota.....	150	50
Tennessee.....	\$3 for each floor space	100 square feet of 1
Texas.....	750	50
West Virginia..	250	75

# STATE FINANCES AND TAXATION

## GROSS DEBT OF INDIVIDUAL STATES:\*

**1941-1942**  
(amounts in millions)

State	Gross Debt		Change: 1941-1942	
	Amount 1942	Amount 1941	Amount	Per Cent
New York.....	\$703.4	\$751.8	\$-48.4	-6.4
Pennsylvania.....	288.8	205.4	83.4	40.6
California.....	219.4	319.8	-100.4	-31.4
Louisiana.....	182.1	185.5	-3.4	-1.8
Arkansas.....	154.6	149.4	5.2	3.5
Illinois.....	149.3	160.8	-11.5	-7.2
North Carolina.....	135.4	150.6	-15.2	-10.1
Massachusetts.....	111.2	131.8	-20.6	-15.6
New Jersey.....	105.9	117.1	-11.2	-9.6
Minnesota.....	106.2	112.8	-7.6	-6.7
Tennessee.....	94.4	95.1	-.7	-.7
Missouri.....	87.9	95.7	-7.8	-8.2
South Carolina.....	86.5	71.7	14.8	20.6
Mississippi.....	83.0	83.7	-.7	-.8
West Virginia.....	79.7	78.3	1.4	1.8
Alabama.....	74.7	69.7	5.0	7.2
Maryland.....	58.0	53.5	4.5	8.4
Michigan.....	41.1	89.1	-48.0	-53.9
Oklahoma.....	40.2	43.2	-3.0	-6.9
South Dakota.....	32.1	41.4	-9.3	-22.5
Oregon.....	31.2	35.0	-3.8	-10.9
Connecticut.....	30.2	33.4	-3.2	-9.6
Rhode Island.....	29.3	30.8	-1.5	-4.9
New Mexico.....	27.2	26.7	.5	1.9
Maine.....	26.3	22.0	4.3	19.5
Virginia.....	25.7	26.4	-.7	-2.7
Colorado.....	24.1	26.1	-2.0	-7.7
North Dakota.....	23.0	23.1	-.1	-.4
Georgia.....	23.0	28.7	-5.7	-19.9
Texas.....	18.2	21.9	-3.7	-16.9
New Hampshire.....	17.9	15.6	2.3	14.7
Washington.....	16.3	20.6	-4.3	-20.9
Kansas.....	15.5	16.9	-1.4	-8.3
Montana.....	13.5	12.0	1.5	12.5
Ohio.....	12.1	10.7	1.4	13.1
Kentucky.....	9.1	16.8	-7.7	-45.8
Indiana.....	7.9	8.9	-1.0	-11.2
Vermont.....	6.7	7.8	-1.1	-14.1
Delaware.....	5.2	4.2	1.0	23.8
Wyoming.....	3.2	3.6	-.4	-11.1
Arizona.....	3.1	2.8	.3	10.7
Idaho.....	2.7	2.0	.7	35.0
Iowa.....	2.0	3.2	-1.2	-37.5
Utah.....	2.0	2.1	-.1	-4.8
Wisconsin.....	1.2	4.1	-2.9	-70.7
Nebraska.....	.9	1.0	-.1	-10.0
Nevada.....	.4	.5	-.1	-20.0
Florida.....	....	....	....	....

\* *State Finances: 1942*, Volume 2, Number 3, Preliminary, Bureau of the Census.

cause of the noncallable feature in their bonds and the high price at which their bonds are selling. In some states the surplus is being used to rehabilitate state institutions or is being set aside as a post-war reserve. Although some states have used part of their surpluses to purchase defense bonds, others have been prohibited from doing so by constitutional provisions.

These surpluses have given rise to the suggestion that state taxes should be reduced. Such action, however, would run counter to the Federal Government's efforts to restrict purchasing power and thus control inflationary forces. Furthermore, it is not certain that the present trend in tax collections will continue. The rationing of gasoline, tires, and automobiles will inevitably reduce the

## VII. PUBLIC FINANCE AND TAXATION

yield of motor fuel and motor vehicle taxes. The yield of taxes on alcoholic beverages will be curtailed by restrictions on the production of such beverages. Increased Federal taxes may also reduce purchasing power and thus reduce the yield of sales taxes.

### MUNICIPAL FINANCE

By H. K. ALLEN,

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#### GENERAL

An examination of the financial condition of municipalities for the year 1942 shows definite signs of a continuation of the improvement which began in 1934. This further improvement is indicated especially by a decline in tax delinquencies and a decrease in the number of defaults. The decline in tax delinquencies and the increase in back tax collections resulted from the general improvement in business conditions, and the reduction in the number of defaults is largely attributable to the improvement in tax collections.

#### EXPENDITURES

The most recent year for which the

comprehensive statistics of the Bureau of the Census are available is for 1939. Unfortunately, the figures for 1932 to 1939 are limited to cities having a population of over 100,000. By Executive Order of June 10, 1933, the annual collection and compilation of financial statistics was limited to cities of over 100,000 population.

While some of the absolute expenditures just noted may appear large, yet too great significance should not be attached to them. The size of an expenditure becomes intelligible in terms of service when one discovers the number among whom it is divided. The per capita expenditures of cities, both as a whole and for particular items have varied

#### MUNICIPAL EXPENDITURES

(000 Omitted)

Operation and Maintenance, by Major Functions

Year	Total	General Government	Protection to Person and Property	Health and Sanitation	Highways
1939 <sup>1</sup> .....	\$2,195,742	\$166,695	\$345,525	\$138,381	\$116,442
1938 <sup>1</sup> .....	2,167,459	163,089	346,168	136,956	111,979
1937 <sup>1</sup> .....	2,025,052	159,557	330,107	127,634	106,242
1936 <sup>1</sup> .....	1,838,803	150,213	317,154	141,207	108,910
1935 <sup>1</sup> .....	1,797,798	139,144	307,733	135,892	111,358
1934 <sup>1</sup> .....	1,744,975	135,766	298,758	134,296	111,306
1933 <sup>1</sup> .....	1,727,043	142,296	298,852	138,921	110,652
1932 <sup>1</sup> .....	1,806,517	149,909	328,797	160,010	127,670
1929.....	1,730,288	140,521	339,816	174,858	147,375
1927.....	1,562,615	136,848	315,362	160,259	137,892
1924.....	1,287,484	111,856	259,275	130,388	109,807
1922.....	1,155,691	105,174	234,199	115,488	98,763
1919.....	697,319	72,585	146,763	75,847	65,003
1915.....	546,568	62,793	120,696	55,758	60,615
1911.....	452,899	53,766	106,120	45,691	52,214
1907.....	367,367	42,703	87,885	36,899	42,718
1903.....	278,173	30,842	71,020	25,807	34,208

<sup>1</sup> Statistics for 1932 to 1939 are for cities having a population in 1930 over 100,000. All other data are for cities over 30,000. Because of some changes in the basis of classification, the figures for 1937, 1938, and 1939 are not strictly comparable with those for earlier years. Beginning with 1937, the financial statistics of public-service enterprises were reported separately from those of general government.

# MUNICIPAL FINANCE

1

Year	Charities, Hospitals, and Corrections	Schools	Libraries	Recreation	Miscellaneous
1939	513,020	630,203	25,528	66,205	193,741
1938	508,134	625,032	25,519	64,946	185,637
1937	451,472	596,129	24,101	58,132	171,678
1936	366,466	571,922	21,119	52,303	109,504
1935	337,990	545,718	20,840	47,943	151,180
1934	345,214	526,864	20,271	48,306	124,194
1933	292,212	542,034	19,744	60,097	122,235
1932	234,419	629,353	..... <sup>1</sup>	63,117	113,242
1929	116,147	622,587	23,029	61,863	94,091
1927	99,806	560,668	20,167	53,839	77,731
1924	79,239	475,725	15,782	41,819	63,590
1922	76,627	422,843	14,326	38,703	49,603
1919	53,262	216,701	9,079	24,204	33,870
1915	38,285	162,332	7,134	20,416	18,535
1911	30,647	127,604	5,939	17,114	13,801
1907	24,408	102,395	4,989	11,794	13,572
1903	18,280	80,853	4,067	7,457	5,634

<sup>1</sup> Expenditures for libraries and schools combined in 1932.

greatly from time to time, but the general tendency has been to increase. The table below shows the change in per capita expenditures for selected years.

## IMPORTANCE OF DIFFERENT MUNICIPAL EXPENDITURES

There is a wide difference in the

importance attached to the different functions performed by municipalities. While over a period of years there has been some change in the relative importance of some of the items, it is interesting to note that expenditures for education have always been far larger than any other, and that the relative importance of

## PER CAPITA EXPENDITURES

Year	Total	General Government	Protection to Person and Property	Health and Sanitation	Highways	Charities, Hospitals, and Corrections	Education, Schools <sup>1</sup>	Libraries <sup>2</sup>	Recreation <sup>3</sup>	Miscellaneous <sup>1</sup>
1939	\$57.77	\$4.39	\$9.10	\$3.64	\$3.06	\$13.49	\$16.58	\$ .67	\$1.74	\$5.09
1938	57.36	4.32	9.16	3.62	2.96	13.45	16.54	.68	1.72	4.92
1937	53.75	4.24	8.77	3.38	2.82	11.98	15.82	.64	1.54	4.56
1936	48.83	3.99	8.43	3.75	2.89	9.73	15.19	.56	1.39	2.91
1935	47.78	3.70	8.18	3.61	2.76	8.98	15.05	...	1.27	4.02
1934	46.43	3.61	7.95	3.57	2.97	9.18	14.56	...	1.29	3.30
1933	46.08	3.80	7.98	3.71	2.95	7.80	14.99	...	1.60	3.26
1932	47.87	3.97	8.71	4.24	3.38	6.21	16.68	...	1.67	3.00
1929	43.45	3.66	8.46	4.33	3.70	2.78	16.14	.59	1.55	2.25
1927	40.77	3.46	8.13	4.13	3.60	2.49	15.08	.53	1.40	1.94
1924	35.61	3.01	7.10	3.55	3.07	2.08	13.52	.44	1.15	1.67
1922	33.15	2.94	6.66	3.25	2.87	2.08	12.50	.41	1.09	1.34
1919	21.63	2.22	4.53	2.34	2.04	1.59	6.88	.28	.74	1.01
1915	18.45	2.10	4.06	1.86	2.06	1.26	5.58	.24	.68	.61
1911	17.62	2.08	4.12	1.77	2.04	1.17	5.04	.23	.65	.53
1907	15.95	1.86	3.80	1.59	1.91	1.05	4.42	.21	.51	.59
1903	13.19	1.46	3.35	1.21	1.64	.86	3.86	.10	.35	.27

<sup>1</sup> Payment for pensions are included in column "Miscellaneous" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with expenses of police, fire, and school departments.

<sup>2</sup> Payments for expenses of art galleries and museums are included in column "Recreation" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with the expenses of libraries; expenditures for libraries and schools are combined for the years 1932 to 1935.



## VII. PUBLIC FINANCE AND TAXATION

### PERCENTAGE OF EXPENDITURES FOR DIFFERENT FUNCTIONS

Year	General Government	Protection to Person and Property	Health and Sanitation	Highways	Charities, Hospitals, and Corrections	Education Schools <sup>1</sup>	Libraries <sup>1</sup>	Recreation	Miscellaneous
1939	7.6	15.7	6.3	5.3	23.3	28.7	1.2	3.0	8.7
1938	7.5	16.0	6.3	5.2	23.4	28.8	1.2	3.0	8.5
1937	7.9	16.3	6.3	5.2	22.3	29.4	1.2	2.9	8.5
1936	8.2	17.2	7.7	5.9	19.9	31.1	1.1	2.8	6.0
1935	7.7	17.1	7.5	6.2	18.8	31.6	...	2.7	8.4
1934	7.8	17.1	7.7	6.4	19.8	31.4	...	2.8	7.1
1933	8.2	17.3	8.1	6.4	16.9	32.5	...	3.5	7.1
1932	8.3	18.2	8.9	7.1	13.0	34.8	...	3.5	6.3
1929	8.4	19.5	10.0	8.5	6.4	37.2	1.4	3.6	5.2
1927	8.5	20.0	10.1	8.8	6.6	37.0	1.3	3.4	4.8
1924	8.5	19.9	10.0	8.6	5.9	38.0	1.2	3.2	4.7
1922	8.9	20.1	9.8	8.7	6.3	37.7	1.2	3.3	4.0
1919	10.2	21.0	10.8	9.4	7.3	31.8	1.3	3.4	4.7
1915	11.4	22.0	10.1	11.2	6.8	30.2	1.3	3.7	3.3
1911	11.8	23.4	10.1	11.6	6.6	28.6	1.3	3.7	3.0
1907	11.7	23.8	9.9	12.0	6.6	27.7	1.3	3.2	3.6
1903	11.1	25.3	9.2	12.4	6.5	29.3	1.5	2.7	2.1

<sup>1</sup> Percentages for schools and libraries combined for the years 1932 to 1935.

this item up to 1932 tended to increase with the years. Protection and highways have commanded a smaller percentage of the expenditures than formerly. The most significant development in recent years, it will be noted, is the increase in expenditures for charities, hospitals, and corrections. The table above shows the relative importance of the different services over a period of years.

The expenditures just described are designated as "cost payments" by the Census Bureau. In addition to these are a number of other expenditures, the most important of which are for interest, outlays, and payments for operation and maintenance of public-service enterprises. The interest payments are for the funded and floating debt, special assessment loans, and other minor types of borrowing. In 1939 the total interest payment was \$198,619,000; the corresponding figure for 1938 was \$207,135,000.

Expenditures for outlays comprise the amounts paid for the acquisition and construction of more or less permanent improvements, including payments for additions made to those previously acquired or constructed. Such payments in 1939 amounted to \$388,400,000 in compari-

son with \$377,171,000 for the preceding year.

### INCOME AND PAYMENTS OF PUBLIC-SERVICE ENTERPRISES: 1939

(Expressed in Thousands)

Type of Enterprise	Income <sup>1</sup>	Payments <sup>2</sup>
Water-supply .....	\$214,118	\$203,689
Electric light and power.	59,363	72,941
Transit.....	99,142	105,440
Gas-supply.....	15,993	20,221
Ports, harbors, docks and wharves.....	29,246	26,094
Airports.....	8,812	14,232
Ferries.....	4,929	4,787
All other.....	21,106	95,273
Total.....	\$452,709	\$542,677

<sup>1</sup> Includes \$73,533,000 contributions received from the revenues of the general government of the cities.

<sup>2</sup> Includes \$228,374,000 for capital outlays, and \$29,121,000 contributions made by the enterprises to the general funds of cities.

The water-supply system is the most important public service enterprise operated by American cities. Of the 94 municipalities for which the census data are available, 87 had water-supply systems in 1939. Because of the numerous factors involved, no attempt can be made, from the data presented, to appraise

## MUNICIPAL FINANCE

the success of public-service enterprises.

### SOURCES OF REVENUE

**Property Taxes.**—The revenue of cities arises from a number of sources. In most cities more than 90 per cent of the funds which go into the general revenue fund come from the general property tax. This is a tax levied against real and personal property. In addition to the general property tax the Census Bureau designates certain taxes as special property taxes. Such include taxes upon the capital stock of corporations, upon savings banks and other financial institutions, and upon insurance companies. Included in this, also, would be taxes levied upon mortgages at time of recording, taxes upon incomes and estates, upon investments, and a wide range of specific taxes.

**Poll and Business Taxes.**—In many

cities, also, some form of poll tax continues to be used, although such taxes are much less important than formerly. No generalization can be made as to method of levy since this varies greatly from city to city. In addition, business and non-business license taxes make up a large group of levies upon different types of business activities, some of which, of course, are levied primarily for regulative purposes. The latter include such levies as those upon dogs, dance halls, etc. Receipts from special assessments constitutes an important item, but they do not enter the general revenue fund. In some places at a particular time subventions and grants are an important source of income, while in some cities, also, the earnings from public enterprises are not unimportant. The relative importance of the major sources of revenue over a period of years is shown in the following table:

**PERCENTAGE OF RECEIPTS FROM DIFFERENT SOURCES OF REVENUE**

Year	The General Property Tax	Other Taxes Tax	Special Assessments	Subventions and Grants, Donations and Pension Assessments	Earnings of Public Service Enterprises <sup>1</sup>	Other Revenues
1939	64.1	7.9	1.0	18.4	....	8.6
1938	64.7	8.1	1.1	16.1	....	10.0
1937	65.2	8.0	1.2	16.4	....	9.2
1936	59.7	7.9	1.6	14.3	10.4	6.1
1935	60.2	6.8	1.7	15.6	9.5	6.2
1934	62.6	5.3	2.2	13.5	9.8	6.6
1933	64.3	4.3	2.4	12.3	9.5	7.2
1932	66.2	4.7	3.9	8.5	9.3	7.4
1929	64.7	6.4	7.2	5.8	9.8	6.1
1927	66.1	5.7	7.7	4.9	9.6	6.2
1924	66.1	5.7	5.9	5.3	10.3	6.8
1922	66.9	5.2	4.8	5.9	9.0	8.2
1919	66.0	7.6	5.6	4.1	10.2	6.4
1915	62.4	7.8	8.5	4.2	10.0	6.9
1911	61.9	8.7	8.4	4.6	10.6	5.8
1907	59.4	10.6	8.2	4.8	11.2	5.8
1903	61.4	9.8	7.6	4.3	11.5	5.5

<sup>1</sup> Listed separately in 1937, 1938 and 1939.

### PER CAPITA TAX BURDEN

That the tax burden imposed by cities has been increasing much more rapidly than population is readily seen when one notes the change in the per capita amounts collected from

different sources over a period of years.

### MUNICIPAL INDEBTEDNESS

Receipts from sources of revenue may either just pay expenses, more

## VII. PUBLIC FINANCE AND TAXATION

### PER CAPITA RECEIPTS FROM DIFFERENT SOURCES

Year	Total	The General Property Tax	Other Taxes	Special Assessments	Subventions and Grants, Donations, and Pension Assessments	Earnings of Public Service Enterprises <sup>1</sup>	Other Revenues
1939	\$73.93	\$47.38	\$5.80	\$ .73	\$13.58	....	\$6.44
1938	74.28	48.02	5.97	.82	11.99	....	7.48
1937	71.89	46.91	5.76	.89	12.77	....	5.56
1936	76.83	45.83	6.03	1.21	10.95	8.03	4.78
1935	77.64	46.72	5.26	1.32	12.10	7.37	4.87
1934	72.13	45.17	3.77	1.61	9.71	7.09	4.78
1933	66.88	43.02	2.88	1.59	8.25	6.36	4.78
1932	68.82	45.57	3.24	2.70	5.84	6.42	5.03
1929	69.63	45.07	4.43	5.01	4.02	6.82	4.28
1927	69.77	46.09	3.95	5.36	3.40	6.67	4.29
1924	58.41	38.59	3.33	3.43	3.12	6.00	3.96
1922	53.57	35.85	2.80	2.58	3.13	4.83	4.38
1919	35.26	23.29	2.68	1.98	1.43	3.61	2.27
1915	30.00	18.73	2.36	2.54	1.26	3.03	2.08
1911	28.07	17.37	2.44	2.35	1.30	2.98	1.63
1907	24.67	14.64	2.63	2.02	1.18	2.77	1.43
1903	21.14	12.98	2.06	1.60	.91	2.42	1.16

<sup>1</sup> Listed separately in 1937, 1938 and 1939.

than pay expenses, or fail to pay them. In many cases the administrators of the finances have planned for a surplus but because of a shrinkage in revenue have had to resort to borrowing.

In the calculations of the Census Bureau, municipal indebtedness is divided into two distinct groups—

#### MUNICIPAL INDEBTEDNESS

(000 Omitted)

Year	Net Debt <sup>1</sup>	
	Amount	Per Capita
1939	\$6,479,707	\$170.47
1938	6,470,850	171.23
1937	6,401,987	169.93
1936	6,331,516	168.13
1935	6,397,603	170.03
1934	6,380,478	169.76
1933	6,360,586	169.70
1932	6,289,078	166.66
1930	5,967,563	153.02
1929	5,529,835	144.33
1927	4,943,507	134.27
1924	3,481,980	110.09
1922	3,280,645	97.57
1919	2,541,172	81.18
1915	2,245,906	77.86
1911	1,808,828	67.52
1907	1,808,878	56.04
1903	933,004	44.71

<sup>1</sup> Net debt is the total bonded debt less sinking fund assets, and is exclusive of special assessment and short-term debt. Short-term debt is included in statistics for 1935 and earlier years.

funded debt and floating debt. The former includes all obligations represented by former investments which have a number of years to run and for the redemption of which no assets other than a sinking fund or earnings of public service enterprises have been specifically designated. The latter, on the other hand, includes such indebtedness as is evidenced by warrants, accounts payable, and other short-term obligations. The gross indebtedness is, of course, the total amount, while the net indebtedness is derived by subtracting from this the value of the assets in the sinking fund. The adjoining table shows the total indebtedness, the sinking fund assets, and the net indebtedness for certain years. The latest statistics that are available for 1931 to 1938 give only net indebtedness.

#### DEVELOPMENTS IN THE BOND MARKET

The aggregate disposals of long-term obligations by states and municipalities for the first ten months of each year for a series of years are shown in the accompanying table. Total issues for the months covered declined from \$823,115,000 in 1941 to \$488,414,771 in 1942.

## MUNICIPAL FINANCE

### MUNICIPAL BOND ISSUES

(000 Omitted)

Year	Total First Ten Months	Year	Total First Ten Months
1942	\$ 488,415	1927	\$1,297,029
1941	823,115	1926	1,149,105
1940	954,593	1925	1,174,724
1939	956,386	1924	1,280,504
1938	800,606	1923	850,952
1937	769,778	1922	990,188
1936	955,500	1921	868,392
1935	973,869	1920	570,109
1934	725,660	1919	581,871
1933	392,580	1918	245,789
1932	701,938	1917	402,828
1931	1,156,129	1916	402,548
1930	1,211,857	1915	434,829
1929	1,055,135	1914	423,171
1928	1,094,074	1913	327,902

Source: *Commercial and Financial Chronicle*.

### FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

The table showing municipal bond issues does not include the extension grants made to municipalities for public-works projects by the Federal Emergency Administration of Public Works. This agency was created by the National Industrial Recovery Act which became effective June 16, 1933. Under Title II of this act, authority was granted to the administrator to furnish grants, not subject to repayment, for 30 per cent of the total expenditures incurred for the payment of labor and material costs on approved public-works projects. Moreover, the agency was authorized to accept 4 per cent general obligation or revenue bonds of the municipalities as security for the loan portion of the allotment. In 1934 Congress authorized the Reconstruction Finance Corporation to purchase marketable securities from the Public Works Administration and provided the moneys realized by the Public Works Administration from such sales might be used for making additional loans, but not grants, in aid of non-Federal public-works projects under Title II of the N.I.R.A.

In addition to the program of public works administered under Title II of the National Industrial Recovery Act, the Public Works Adminis-

tration carried on a separate program pursuant to the Emergency Relief Appropriation Act of 1935. Under the latter act the amount of the grant was fixed by administrative determination at 45 per cent of the cost of the project, with a corresponding reduction in the amount to be furnished by the applicant. Provision was made under this act for the sale of bonds acquired as collateral for municipal loans either on the open market or to the Reconstruction Finance Corporation, the proceeds to be used only for the making of loans. In practice the sales have been confined to the Reconstruction Finance Corporation which, in turn, has sold the securities on the open market.

The Public Works Administration since its creation has pledged itself to buy approximately \$1,000,000,000 worth of bonds. The major portion of the amount acquired by the Public Works Administration has been placed with the Reconstruction Finance Corporation and resold to the general public. Total allotments for all non-Federal projects for the years 1933 to 1937, inclusive, totaled \$1,450,952,783. Of this amount, \$592,325,453 consisted of loans, and \$858,627,330 was in grants.

### TAX DELINQUENCY

Tax delinquency is a natural phenomenon of a business depression, and a rising trend of tax delinquency inevitably cripples municipal functions and weakens municipal credit. Dun and Bradstreet has made a study of the trend of median year-end tax delinquency in 150 cities of over 50,000 population for the 11-year period from 1930 to 1941. The following percentages show the median delinquency on the current tax levy at the end of each fiscal year:

1941	1938	1935	1932
6.80%	10.7%	18.0%	19.95%
1940	1937	1934	1931
8.70%	11.3%	23.05%	14.60%
1939	1936	1933	1930
9.25%	13.9%	26.35%	10.15%

These figures show a substantial gain in collections since 1933; and



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delinquency in 1941 was lower than it was in 1930. Only fragmentary data are available for 1942, but it is believed that little change has occurred.

### DEBT DEFAULTS

Heavy tax delinquency in recent years naturally resulted in a large number of defaults. The *Bond Buyer* estimated, with certain reservations, that 276 cities and towns were in default on their bonds on Dec. 1, 1942. This represents a reduction from the previous year when 310 incorporated places were in default. The following states, according to the *Bond Buyer*, had the largest number of defaults:

Florida.....	78	Michigan.....	20
Texas.....	30	Pennsylvania....	12
Oklahoma.....	24	Colorado.....	11
North Carolina..	22	New Jersey.....	11

It is significant to note that Florida and North Carolina, which are included in the above group, had large increases in local indebtedness between 1912 and 1932, the percentages being 2,779.01 and 1,300.8 respectively. The indebtedness of Maine during the same period increased only 73.2 per cent, while that of Massachusetts increased only 99.2 per cent. Maine had three incorporated places in default in 1941 and Massachusetts had none. While no data are available regarding the volume of municipal bonds in default, it can reasonably be stated that the volume of such defaults has declined during the past year.

### DEBT ADJUSTMENT LEGISLATION

For the purpose of aiding municipalities which are in default on their obligations, various states have recently passed state receivership and debt adjustment acts. Boards or commissions have been established to supervise local indebtedness in general, to supervise the refunding of municipal bonds, and to act as re-

ceivers in event of failure to meet debt service.

A Federal Municipal Bankruptcy Act was enacted May 24, 1934. This act, which was declared unconstitutional by the Supreme Court of the United States in May, 1936, was designed to enable any taxing district, with the consent of its creditors and the approval of a Federal District Court, to adjust its debt structure. According to the *Bond Buyer*, only 27 cities, one county, one school district, 41 irrigation districts, and one road district filed petitions under the Municipal Bankruptcy Act during the two years which the law was in effect.

On Aug. 16, 1937, President Roosevelt signed a new Municipal Bankruptcy Act, designed to replace the original measure which was declared unconstitutional. The present law is similar in its provisions to the invalidated law. It provides a procedure whereby insolvent taxing agencies, such as local drainage, levee, irrigation, road, and sewer districts, as well as towns, boroughs, and municipalities, may effect compositions with their creditors. These compositions would be approvable only when the districts or agencies filed voluntary proceedings in bankruptcy accompanied by plans approved by 51 per cent of all the creditors of the district or town. The plan of composition can not be confirmed unless accepted in writing by creditors holding at least 66 2/3 per cent of the aggregate amount of the indebtedness of the petitioning district or taxing agency, unless the judge is satisfied that the taxing district was authorized by law to carry out the plan and there had been a finding by the Court that the plan was fair, equitable, and for the best interests of the creditors. According to the *Bond Buyer*, 231 municipalities had filed petitions under the 1937 Federal Municipal Bankruptcy Act on Dec. 1, 1941.

## FEDERAL INCOME AND PROFITS TAXES

### FEDERAL INCOME AND PROFITS TAXES

BY LUCY WINSOR KILLOUGH  
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#### REVENUE ACT OF 1942

The Committee on Ways and Means of the House of Representatives began its hearings on the Revenue Act of 1942 on March 3. On that day Secretary of the Treasury Morgenthau presented to the Committee the Treasury's recommendations for the first Revenue Act of the war period. The Secretary stated that the adoption of these recommendations would bring about a net addition to Federal revenues of between \$7,000,000,000 and \$8,000,000,000. The major portion of this additional revenue was to come from taxes on individual incomes and on corporate incomes and excess profits. Increased returns from individual income taxpayers were to be brought about by increases in income surtax rates throughout the scale. No change in the normal tax on corporate incomes was recommended but increases were proposed both for the corporate surtax and for the excess profits tax.

Other methods of increasing collections from individual incomes were discussed by Secretary Morgenthau. In his March message he stated that the Treasury did not recommend the method of lowering personal exemptions. Early in May, however, he wrote to the chairman of the Committee on Ways and Means recommending a lowering of exemptions which, he estimated, would bring in about \$1,100,000,000 revenue above that expected from his March proposals. He also recommended taxation of the income from state and local securities and mandatory joint returns from married couples. These two recommendations constituted a substantial part of his statement made to the Committee on Ways and Means in March and were reiterated in a statement sent to the Senate Finance Committee on July 23.

During the spring the Committee

on Ways and Means held protracted hearings on the Revenue Act. Those who appeared before the Committee generally agreed on the necessity of raising at least as much money as was proposed by the Treasury and sought by the Committee. Nevertheless many groups objected to the marked increases proposed in income and profits tax rates. The substitute source of revenue most often suggested was some form of a general sales tax.

On July 20 the House passed a revenue bill which, although it differed from the Treasury proposals in numerous respects, followed the general plan of heavy reliance upon income and profits taxes. The House bill was sent to the Senate, and further hearings were held by the Senate Finance Committee. The Senate passed a bill on Oct. 10. The differences between the two bills were settled quickly, and the completed Revenue Act of 1942 was passed by both Houses of Congress on Oct. 20 and signed by President Roosevelt on Oct. 21.

It was estimated that the new act would yield between \$8,000,000,000 and \$9,000,000,000 in addition to what was expected from existing legislation. About \$1,750,000,000 of this is to be returned to the taxpayers partly in the form of credits against tax liabilities in the following year and the remainder after the war. Thus the expected net increase in yield is about \$7,000,000,000.

The Revenue Act of 1942 relies more heavily upon income and profits taxes than seemed probable in the spring. Nearly \$5,000,000,000 of net increase is expected from taxes on individual incomes alone. The lowering of exemptions and the new Victory tax, described below, make this large increase possible. The number of personal income tax returns is ex-

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pected to increase from 7,000,000 to 32,000,000. About \$1,333,000,000 of additional revenue are expected from taxes on corporate incomes and excess profits. Congress rejected the proposal to require mandatory joint returns from married couples and the proposal to tax the income from state and local securities.

## PERSONAL INCOME TAX

The personal exemptions are lowered from \$750 to \$500 for single persons, from \$1,500 to \$1,200 for married persons, and the exemption for

dependents from \$400 to \$350. The normal tax on all taxable income is raised from 4 per cent to 6 per cent. The graduated surtax rates are raised. Under the Revenue Act of 1941 these rates ranged from 6 per cent to 77 per cent; under the new act they range from 13 per cent to 82 per cent. Under the Revenue Act of 1940 the first \$4,000 of "surtax net income" was exempt from surtax but under the Acts of 1941 and 1942 all the "surtax net income" is subject to surtax. Sample surtax rates under the 1940, the 1941, and the 1942 laws are shown below:

Surtax Net Income	Surtax Rates		
	1940	1941	1942
Not over \$2,000 . . . . .	0	6%	13%
Over \$2,000 but not over \$4,000 . . . . .	0	9%	16%
Over \$4,000 but not over \$6,000 . . . . .	4%	13%	20%
Over \$6,000 but not over \$8,000 . . . . .	6%	17%	24%
Over \$14,000 but not over \$16,000 . . . . .	15%	32%	40%
Over \$44,000 but not over \$50,000 . . . . .	40%	55%	63%
Over \$90,000 but not over \$100,000 . . . . .	56%	64%	77%
Over \$1,000,000 but not over \$2,000,000 . . . . .	73%	75%	82%
Over \$5,000,000 . . . . .	75%	77%	82%

## VICTORY TAX

An innovation in the personal income tax structure is the so-called Victory tax. This is a tax of 5 per cent on the gross income of all persons with incomes in excess of \$624 a year. This tax is to be collected from the source as a withholding tax by the employer from all wages and salaries in excess of \$12 a week. Recipients of income other than wages and salaries are responsible for making their own payments. No personal exemptions or credits for dependents are allowed in collecting this tax. However, the law provides for post-war refunds of a part of the tax, and the refunds are adjusted to the family status of the taxpayer. Single persons are entitled to refunds of 25 per cent of their Victory tax, married persons 40 per cent with an additional

allowance of 2 per cent for each dependent. Total refunds are limited to \$500 a year for single persons, \$1,000 for married persons, and \$100 for each dependent. On annual income tax returns to be filed in March 1944, taxpayers may deduct certain life insurance premiums, debt repayments, and purchases of United States government bonds to an amount equal to the refundable portion of their Victory tax of the preceding year. This deduction is in lieu of the post-war refund, and most taxpayers are expected to choose the deduction.

## ESTIMATES OF TAX LIABILITIES

Estimates of the tax liabilities of persons of various incomes were given out by the Treasury at the time of the passage of the bill. Selected figures follow.

# FEDERAL INCOME AND PROFITS TAXES

Net Income Before Personal Exemption	Single Person, No Dependents			Married Person, No Dependents		
	Individual Income Tax <sup>a</sup>	Victory Tax After Post War Credit <sup>b</sup>	Combined Tax	Individual Income Tax <sup>a</sup>	Victory Tax After Post War Credit <sup>b</sup>	Combined Tax
\$600	\$15	\$2	\$17	.....	\$1	\$1
1,000	89	18	107	.....	15	15
2,000	273	60	333	\$140	48	188
5,000	920	185	1,105	746	148	894
10,000	2,390	393	2,783	2,152	315	2,467
50,000	25,811	2,247	28,058	25,328	1,747	27,075
100,000	64,641	5,024	69,665	64,060	4,524	68,584
1,000,000	854,616 <sup>c</sup>	44,884 <sup>c</sup>	899,500	854,000 <sup>c</sup>	45,000 <sup>c</sup>	899,000
5,000,000	4,374,616 <sup>c</sup>	124,884 <sup>c</sup>	4,499,500	4,374,000 <sup>c</sup>	125,000 <sup>c</sup>	4,499,000

<sup>a</sup> Maximum earned net income assumed.

<sup>b</sup> Computed by assuming that deductions are 10 per cent of victory tax net income, i.e., nine-tenths of statutory net income shown in stub.

<sup>c</sup> Taking into account maximum effective rate limitation of 90 per cent.

These figures are materially larger than the requirements of the Revenue Act of 1941. A few comparisons show the extent of the increase:

Net Income	Married Person, No Dependents	
	1941 Tax	1942 Income Plus Victory Tax
\$2,000	\$42	\$188
10,000	1,305	2,467
50,000	20,439	27,075
1,000,000	732,554	899,000
5,000,000	3,922,524	4,499,000

corporate incomes by the Revenue Act of 1941 is retained with higher rates. The former rates of 6 per cent on corporation surtax net income not in excess of \$25,000 and 7 per cent on income above \$25,000 have been increased to 10 per cent on the first \$25,000 of surtax net income up to 16 per cent on incomes in excess of \$50,000. Thus the combined normal tax and surtax on corporations with net incomes in excess of \$50,000 has been increased from 31 per cent to 40 per cent.

The most important change in the excess profits tax is the substitution of a flat rate of 90 per cent for the former graduated rates of from 35 per cent to 60 per cent. Two provisions modify this increase. One provides for a refund of 10 per cent of the tax as determined under the 90 per cent rate. This refund may be taken currently if used for debt retirement or may take the form of a post-war credit. The other provision states that the combined income and excess profits tax of any corporation shall not exceed 80 per cent of the surtax net income.

One new and mitigating feature of the new bill is a provision for the deduction of medical expenses. Expenses for medical and hospital care to the extent that they are in excess of 5 per cent of net income may be deducted. The maximum deductions permitted in one year are \$1,250 for a single person and \$2,500 for the head of a family.

## CORPORATE INCOME AND EXCESS PROFITS TAXES

Several changes were made in the taxation of corporate income and excess profits. The normal tax on corporate net income remains as before—24 per cent on all corporations with net incomes in excess of \$25,000 with a sliding scale downward to 15 per cent for smaller corporations. The surtax which was first imposed on

The two alternative methods of determining excess profits are retained in the law with some modifications of each method. Under the 1940 law corporations which chose the invested capital method were allowed an excess profits credit of 8 per cent of invested capital. This was modified in 1941 so that the 8 per cent was allowed only



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on invested capital of not over \$5,000,000 and 7 per cent on invested capital in excess of \$5,000,000. The 1942 act modifies this further by lowering the credit from 7 per cent to 6 per cent for capital in excess of \$10,000,000 but not in excess of \$200,000,000 and to 5 per cent for capital in excess of \$200,000,000. A concession is made to corporations which choose the average earnings method of determining excess profits. Excess profits are still defined as those in excess of the average earnings of the four-year period 1936-1939. In computing this average, however, corporations are permitted to substitute for the actual earnings of one bad year in the four-year period a sum equal to 75 per cent of the average earnings of the other three years.

### REVENUE FROM INCOME AND PROFITS TAXES

The total collections of income and profits taxes by the Federal Government in the fiscal year ended June 30, 1942 were \$8,006,880,000, the largest amount ever collected from these taxes. The second largest amount ever collected from income and profits taxes was in the fiscal year ended June 30, 1920 and was \$3,957,000,000, slightly less than half of the collections in 1942. In only three fiscal years before 1942—1920, 1921, and 1941—have collections from income and profits taxes exceeded \$3,000,000,000.

The following table shows the collections of individual income taxes

and corporate income and profits taxes for the fiscal years 1925, 1930, 1935, 1940, 1941, and 1942, and the per cent which these taxes were of the total of federally collected taxes. Collections on corporate incomes exceeded collections on individual incomes in each of the years shown. Separate figures on corporate and individual income tax collections are available for the past 18 years. In only two of these years—1934 and 1937—did individual income tax collections exceed corporate income tax collections.

The Division of Research and Statistics of the United States Treasury has made a study of the relative importance of income taxation in the United States, the United Kingdom, and Canada (*Federal Reserve Bulletin*, December 1942). The study includes all taxes collected by all levels of government in each of the three countries. The Treasury estimates that in the fiscal year 1942-1943 52.8 per cent of all taxes in the United States will be collected in the form of personal and business income taxes, 55.4 per cent of all taxes in the United Kingdom will be so collected, and 48 per cent of the taxes in Canada. Thus the United States ranks between the United Kingdom and Canada in respect to its reliance upon income taxes in relation to other taxes. That the tax burden in the United States is well below that in the United Kingdom and Canada, however, is indicated by the estimate that in the fiscal year 1942-1943 the United States will col-

### INCOME AND PROFITS TAX COLLECTION

(in millions of dollars)

Fiscal Year	Individual Income Tax	Corporate Income and Profits Taxes	Total Income and Profits Taxes	Per Cent Which Income and Profits Taxes Were of Total Federally Collected Taxes <sup>a</sup>
1925.....	845	916	1,761	56.3
1930.....	1,146	1,263	2,410	66.5
1935.....	527	579	1,106	30.5
1940.....	982	1,148	2,130	37.3
1941.....	1,418	2,053	3,471	44.8
1942.....	3,263	4,744	8,007	59.6

<sup>a</sup> Total federally collected taxes include internal revenue and customs.

## FEDERAL INCOME AND PROFITS TAXES

lect 24.5 per cent of its national income in taxes, the United Kingdom 36.8 per cent and Canada 39.1 per cent.

### TAX COLLECTION PROBLEMS

In spite of the large increases in income and profits tax rates provided by the Revenue Act of 1942 the Federal tax structure fails to furnish sufficient revenue. The necessity for an additional act was evident even before the new act became a law. A number of problems specifically related to income taxes are becoming more and more accentuated as revenue needs increase.

A particularly important problem in respect to the personal income tax is that of the method of collection. In this country it has been customary to collect most of the personal income tax from the individual taxpayer during the year after the taxed income was earned. During periods when income tax rates were fairly stable and exemptions large this method was reasonably satisfactory. The relatively small proportion of the population which was required to pay the personal income tax could count on fairly regular demands from year to year. These taxpayers had surpluses above the requirements for maintaining their customary standards of living and were accustomed to making provisions for income tax payment.

The collection problem has been changed materially as rates have increased and exemptions have been lowered. The increasing rates make it difficult for even the most prudent taxpayer to be forehanded in providing for his income tax bills. The increased rates on 1941 incomes became law in September 1941 and those on 1942 incomes in October 1942. In each case the taxable year was about three fourths over before taxpayers could know what taxes were to be asked of them in the following year on income of the current year. The new taxpayers who were added to the taxpaying group by reason of lowered exemptions might well have spent the first three fourths of their

year's income without being aware of the necessity for paying a tax on it in the future.

### THE RUMML PLAN

While the Revenue Act of 1942 was before Congress the fear was expressed that many persons would be unable to meet their income tax bills in 1943. Numerous suggestions were made for putting the personal income tax on a more nearly pay-as-you-go basis. The only action taken in this direction was the provision for collecting the Victory tax at the source. Considerable publicity was given to the "Ruml Plan" proposed by Beardsley Ruml of New York. Under this plan, income tax collections in 1943 would be collected at the source on 1943 incomes. This "skipping" of 1942 incomes would put the personal income tax on a current basis at once and would make it possible in the future to put increases in rates into effect immediately. More gradual methods of going on a pay-as-you-go basis were also discussed. At the end of 1942 this question promised to be one of the most important 1943 problems in the field of personal income taxation.

### PROPOSALS TO COMBAT INFLATION

The role of the personal income tax in the struggle against inflation was debated at length in 1942. A primary cause of inflationary price rises is the increase of purchasing power in the hands of consumers at a time when there is a decline in the available amount of consumer goods. If taxation deprives consumers of some of their purchasing power the danger of inflation is lessened. The lowered exemptions of the new law, and the Victory tax together with the provision for collecting it at the source are steps in this direction. Other fiscal means of helping to prevent inflation are now being weighed. Prominent among these are sales taxes, a spendings tax, and compulsory savings. Sales taxes fall outside of the field of income taxation. The other two, however, might be thought

## VII. PUBLIC FINANCE AND TAXATION

of as enlarging the scope of income taxes. Some students believe that income taxes should be based upon spendings rather than on total income received; to them the progressive spendings tax which has been suggested would be more truly an income tax than the type we now have. Proposals for compulsory savings would apportion such savings in accordance with income.

### OTHER COLLECTION PROBLEMS

Other current income tax problems seem less important at present. Many of them are concerned with plugging loopholes through which relatively small amounts of potential revenue are escaping taxation. The perennial

possibilities of mandatory joint returns for married couples and of taxing the income from state and local securities fall in this category, and also raise broad questions of tax justice. The possibility of removing the present income tax exemptions on certain charitable gifts is being discussed also. It appears from published comments at the end of 1942 that there are more pressing and more tangible problems awaiting attention in the field of personal income taxes than in that of corporate income taxes. There have been discussions in both fields of the effect of high rates on business incentive but positive suggestions compatible with the Government's need for revenue have not appeared.

## LAND AND PROPERTY TAXES

By FINN BJÖRN JENSEN

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### GENERAL

There is now no constitutional rule of immunity from taxation of intangibles by more than one state since the discarding of the constitutional restrictions against their double taxation expressed in the Wachovia Bank and Trust Company and the First National Bank of Boston cases. (*Graves v. Schmidlapp* 2 N.Y. Tax Cases 200-275 and *State Tax Commission of Utah v. Aldrich* 2 N.Y. Tax Cases 200-588). New Jersey created a legislative committee to investigate the establishment of a state-wide, uniform method of taxing intangible personal property.

### LEVIES

Louisiana has passed a gas gathering tax of  $\frac{1}{2}\text{¢}$  per 1,000 cubic feet of gas gathered (H.B. 277), thus repealing the 1936 levy of 1% on gross sales of natural gas. Mississippi substituted an *ad valorem* tax of 4 mills for one of 6 mills, and made it permanent rather than for two-year periods (H.B. 5). Rhode Island raised the

rate on corporate excess from 40 cents for each \$100 to 50 cents for each \$100 for 1942 and 1943. Virginia released the liens on taxes due prior to Jan. 1, 1943.

### ASSESSMENT

A court decision in Georgia allows liquors to be assessed for *ad valorem* tax purposes at a figure including the Federal manufacturers' excise tax (*Consolidated Distributors Inc. v. City of Atlanta*, Ga. Sp. Ct.). In Louisiana, lands improved for agricultural purposes are not to be reclassified into a higher bracket (Act 328). In Michigan, bank deposits, notes receivable, accounts receivable, notes and accounts payable of changing value are taxable on their average value (Attorney General). In Nebraska a statute directing assessing officials to consider the proximity of property to markets, school facilities, other advantages afforded by government subdivision, the tax burden and every other element affecting actual value of real property was declared

## LAND AND PROPERTY TAXES

unconstitutional because it violated the uniformity requirement (*Homan v. Bd. of Equalization* Neb. Sp. Ct.). The Board of Tax Appeals of New Jersey held that cash on deposit in New York is intangible personal property taxable in the district where the depositor resided on the assessing date (*McBride, Executrix, etc. v. City of Jersey City*), and that a company must pay a tax on cash in banks, notes, accounts and interest receivable, and corporate and municipal bonds owned by it even though such property had a business situs and was taxed in North Carolina (*Duke Power Company v. Hillsborough Township, Somerset County*). In Texas it was ruled that the oil production tax holds whether or not the oil is produced legally or illegally (*State v. Humphrey et al.*, Texas Ct. of Civil Appeals).

### EXEMPTIONS

Property of the British Government in California and Connecticut is exempt from taxation (Attorney General). Brewery property in the form of barrels and containers brought into the District of Columbia by independent distributors not engaged in business there is subject to taxation (*Queen City Brewing Company v. D. C. Bd. of Tax Appeals*). Where New York brokers' agents in Florida are performing ministerial duties in connection with marginal stock trading accounts, the accounts are not subject to the intangible property tax (*Smith et al. v. Lummus et al.*, Fl. Sup. Ct.), and the Florida State Comptroller ruled that real estate mortgages taken by certain Federal government agencies are exempt from the special 3-mill recording tax. If papers of a non-resident loan company are executed in Georgia by an agent, the tax does not apply (*Northwestern Mutual Life Insurance Co.*, Ga. Sp. Ct.). In Iowa the exemption from taxation of the property of a municipally owned utility does not prevent the assessment of its power transmission lines supplying current outside the corporate limits.

A Kentucky ruling excludes a foreign corporation engaged in interstate motor transportation whose trucks pass through the state without transacting business therein (*Reeves et al v. Service Lines, Inc.*, Ky. Ct. of App.), and another prohibits the taxation of postal savings deposits at the general property tax rate (*In the Matter of Kentucky Fuel Gas Corporation et al.*). A Massachusetts ruling makes a corporation giving aid or relief to its members in exchange for a substantial initial assessment and year dues subject to the personal property tax (*Assessors of Boston v. Boston Pilots' Relief Society*, Mass. Sp. Jud. Ct.). In Michigan an act exempts all unregistered motor vehicles in dealers' hands as of March 1, 1942 whose sale or use is restricted by Federal regulation. The Nebraska attorney general ruled that neither the state nor the county could tax the machinery and equipment brought into the site of a government ordnance plant by the contractors.

In Nevada a proposed amendment to Sec. 1, Art. 10 of the constitution would exempt all intangibles except bank stock and prohibit the levy of any inheritance or estate tax, and in Louisiana a constitutional amendment to Act 361 would exempt for 25 years after their completion all high-lines, transmission and distribution lines of Rea cooperatives. Stocks of gasoline held by wholesale or retail dealers in North Dakota are assessable as personal property (Attorney General). The Ohio tax commissioner ruled that tangible personality rented by a contractor is not exempt from taxation regardless of whether or not title ultimately rests in the government. In Oklahoma an unliquidated, uncertain, and disputed account receivable is not assessable (*Lumbermen's Supply Co. v. Neal*, Okla. Sup. Ct.). Relief for members of the armed forces is provided in Kentucky by the postponement of *ad valorem* property taxes to 12 months after the termination of military service, by homestead exemption in Louisiana for the duration, by the acceptance



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in Michigan of affidavits relative to homestead exemption from the next of kin, homestead exemption even if homes are rented in Mississippi, poll tax exemption and \$500 property tax exemption in New Jersey, and in Virginia by suspension of penalties and interest on property and poll taxes until June 30, 1944.

### ADMINISTRATION

An Iowa court has ruled that no errors may be corrected or additional taxes required to the detriment of the

taxpayer after receipts have been issued for the payment of taxes (*Des Moines Elevator Co. v. Greenwalt*, Iowa Sp. Ct.). In New Jersey, municipalities may use rents from properties bought for delinquent taxes as a credit against such taxes (A. B. 11), increases as well as reductions in assessments may be included in the assessment roll after appeals have been heard, and the county boards of taxation shall not fix the amount of taxes to be levied until after receipt of the tax commissioners' certification (A. B. 367).

## CORPORATION AND BANK TAXES

By FINN BJÖRN JENSEN

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### STATE CORPORATE INCOME TAX

Ten states have ruled on the deductibility of the Federal retailers' and manufacturers' excises and floor taxes when computing the state income tax. Georgia, Idaho, Mississippi, New Mexico, North Carolina, and Oklahoma allow the deduction of such taxes by the persons upon whom they were originally imposed and not by the consumer. The retailers' excises may be deducted by the consumer in South Dakota, provided he is billed separately, and the taxes may be deducted by the retailer if the amount is included in gross receipts; manufacturers' taxes are deductible only by the manufacturer. South Carolina allows the deduction of manufacturers' excise taxes by the manufacturer but the retailers' excises may not be deducted by the purchaser since they are assessed against the manufacturer, importer, or producer. West Virginia forbids the deduction of the retailers' excises by the consumer. Kentucky allows the deduction of the excise taxes only if they constitute a business expense.

Unemployment contributions made by Massachusetts employers are to be considered deductible as ordinary and necessary expense of business

from gross income (Ch. 685 repealing Sec. 21, Ch. 151-A.G.L.). The exemption in New York for earnings of domestic corporations engaged in ocean commerce has been extended for 10 years (A.B. 1382). The Oklahoma U. S. Circuit Court of Appeals has held that, when the state can attribute a taxable situs to a foreign corporation, it may subject its intangible property to income laws of the state. New York will continue until June 30, 1943, the 2 per cent emergency tax on gross income from utility services for corporations having gross income over \$500 for the 12-month period. Rhode Island has increased the public utilities gross earnings taxes from 1 per cent to 1¼ per cent on steamboat, ferryboat, steam or electric railroad, street railway, dining car, sleeping car, chair car or parlor car corporations and gas, water and toll bridge companies; from 1½ per cent to 2 per cent on electric companies; from 3 per cent to 4 per cent on express and telegraph companies; and from 3 per cent to 6 per cent on cable and telephone companies.

### STATE CAPITAL STOCK TAX

New York has extended for ten years the exemption from state and

## CORPORATION AND BANK TAXES

local tax on capital stock of companies engaged in ocean commerce (A. B. 1382), eliminated double taxation of odd lot transfers of stock (S. B. 96), exempted transfer of certificates deposited for performance of obligations pursuant to law and their retransfer to the depositor (A. B. 870), provided that all deliveries or transfers exempt from the tax must be accompanied by certificates setting forth the facts (A. B. 1453), extended the additional emergency tax on stock transfers to June 30, 1943, and exempted sales on an organized security exchange of less than 100 shares or less than a trading unit.

### FRANCHISE TAXES

The Alabama tax is to be based on fair and reasonable market value (*State of Alabama v. Jackson Securities and Investment Co.*, Ala. Sp. Ct.). After having paid a franchise tax for a certain year an Alabama corporation may not be subjected to additional franchise taxes that year (*International Paper Co. v. Curry*, Ala. Sp. Ct.). In California a method has been formulated for apportionment of net income for franchise tax purposes that averages the percentages which the value of real and tangible personal property, compensation to employees, and gross sales less returns and allowances of the California branch bear to the corresponding items of all houses (*Butler Brothers v. McColgan*, California Sp. Ct., affirmed by U. S. Sp. Ct.). The District of Columbia has substituted a \$10 annual license fee for the \$25 filing fee (P. A. 428). In Mississippi the rates have been substantially reduced (H. B. 383) and the time limit on appeal, petition, or review increased to three years (H. B. 319). When a Montana corporation ceases to do business the tax is due for that part of the last fiscal year during which the corporation carried on business (*State v. Maguire Construction Co.*, Mont. Sp. Ct.).

New York continued for another year the increased franchise tax (A. B. 440), exempted income used

in computing added tax imposed as a franchise tax on real estate corporations upon a change of classification (A. B. 892), exempted for another ten years domestic corporations engaged in ocean commerce (A. B. 1382), exempted companies whose stock is owned by not less than 20 savings banks organized under state law (A. B. 1177), and subjected taxicab corporations for as long as the motor fuel tax exceeds 2¢ a gallon (A. B. 663), and provided that the real estate corporation franchise tax shall be a lien on rentals received by an assigned thereof from the real property of the corporation. In Virginia if incorporators voluntarily give up corporate rights no franchise tax or registration fee is to be assessed (S. B. 97), and telegraph and telephone companies are to report for licensing tax purposes the amount of cable or buried wire used in place of conduits or lines (H. B. 227).

### BANK TAXES

In Kentucky, Federal building and loan associations are to be taxed in the same way as domestic savings and loan associations (Attorney General). A tax of 40¢ per \$100 on interest-bearing time deposits of banks has been levied in Rhode Island, as well as a tax of 3 per cent of net income or \$2.50 per \$10,000 of authorized capital stock, whichever is greater (H. B. 808), and 3 per cent on net income of national banking associations.

### GROSS RECEIPTS TAX

The U. S. Navy Department has ruled that naval contracting officers are authorized to allow as reimbursable items of cost, state and local sales, use, occupational, gross receipts, or other similar taxes where such taxes have been included in the purchase of property used by cost-plus fixed-fee contractors after Nov. 10, 1942. In Washington and West Virginia, business and occupation tax laws include the gross receipts of cost-plus contractors although exempt from their sales tax laws.

## VII. PUBLIC FINANCE AND TAXATION

### CHAIN STORE TAXES

Colorado dealers in new automobiles are not subject (*Armstrong v. Ford Motor Co.*, Colo. Sp. Ct.). If a Florida operator, after paying the tax, opens additional stores placing him in a higher tax bracket, the additional tax for each store must be paid (*Lee v. Walgreen Drug Stores*, Florida Sp. Ct.). Stores organized as separate South Dakota corporations are under a common control and subject to the chain store tax where 80 per cent of the buying and all of the accountancy and advertising are conducted by a corporation organized for that purpose by three individuals who also own a majority of the capital stock of each of the retail corporations and maintain constant supervision over the stores (*State ex. rel. Rodde-wig v. Kutcher et al.*, S. D. Sup. Ct.). In Utah a constitutional amendment which would impose a prohibitive tax on new chain store units was rejected in referendum.

### INSURANCE TAXES

Mississippi has provided for complete retaliatory taxation of foreign insurance companies and non-resident brokers (H. B. 78).

### FEDERAL CORPORATION NORMAL TAX AND SURTAXES

The normal tax rates are unchanged except for net incomes between \$25,000 and \$50,000 for which the alternative tax becomes effective; it has been changed to \$4,250 plus 31 per cent of the amount of the net income over \$25,000 (105). Surtax rates have been increased to 10 per cent for net income under \$25,000, for net income between \$25,000 and \$50,000, 22 per cent of the amount in excess of \$25,000, and 16 per cent for net income over \$50,000 (105).

The normal and surtax net income bases have been changed by eliminating the deduction for the excess profits tax but allowing an additional credit for the adjusted excess profits net income; i.e., the amount on which the 90 per cent excess profits tax rate is computed. In certain cases (ab-

normalities in income during taxable period, contracts under the Merchant Marine Act of 1936, mining of strategic materials, and long term contracts) credit is an amount of which the excess profits tax is 90 per cent. Public utilities are allowed additional credit for surtax purposes for certain dividends paid on their preferred stock, but such dividends are not allowable to recipient corporations in computing dividends received as credit for surtax purposes. The tax on improper accumulation of surplus does not apply to income subject to excess profits tax (102). Western Hemisphere trade corporations are not subject to a surtax (105-141).

### CAPITAL GAINS AND LOSSES

Gains or losses from capital assets held more than six months are long term, and for less than six months are short term. For corporations the full amount of the gain or loss is computed. Losses are deductible only against capital gains, and not ordinary income. A net carryover of loss against future gain for five succeeding years is permitted. The alternative tax of 25 per cent now applies to corporations on net long term capital gains only. Since neither land nor buildings are now considered capital assets, allocation of gain or loss between them is no longer necessary (151a). If a bank or trust company realizes a net loss from the sale of bonds, debentures, etc., it is attributed to ordinary rather than capital loss (150d), the loss from "wash sales" of securities is not recognized (146), and the gain from redemption of preferred stock is considered long or short, according to the period held (146).

The last in, first out method is now allowed for calculations on inventories even where not used otherwise except in the corporation's annual report (118).

The exemption of certain mutual insurance companies (101) is now restricted to those having gross receipts of not over \$75,000 (165a).

An affiliated group of corporations

## CORPORATION AND BANK TAXES

may file a consolidated return and obtain a single specific excess profits exemption of \$5,000. An additional 2 per cent income tax is levied on the amount of consolidated surtax net income (159).

A credit for undistributed profits tax purposes is allowed corporations with deficits in accumulated earnings and profits, and additional credit in certain cases for that portion of statutory net income undistributable as taxable dividend (501).

### EXCESS PROFITS TAX (191-230)

The former graduated rate is now replaced by a flat rate of 90 per cent with the aggregate excess profits, normal and surtax limited to 80 per cent of the surtax net income. The corporation may now choose either the income credit or invested capital method of computation without being required to work out both or disclaim one. A post-war credit of 10% is granted in the form of bonds that are non-interest bearing, non-negotiable, and non-transferable for the duration, but which are available for the payment of principal of a debt (25). Unused excess profits credit may be carried back for two preceding years after Jan. 1, 1941, or forward for two years. Measures designed to give relief to corporations with abnormally low excess profits credits provide, among other things (221, 222, 208, etc.), for a reconstructed base period representing average income. Also corporations beginning after Jan. 1, 1940 and required to use the invested capital method are entitled to relief if goodwill or other intangible assets were excluded from invested capital, or the business was not of the type requiring large capital, or the capital was abnormally

low. A special deduction is granted in certain cases of accelerated production of strategic war materials (209, 226).

Changes in the income credit method of computation include provisions that, if in one year of the base period the excess profits income is less than 75 per cent of the average of the other base period years, an amount equal to that average may be substituted (265), that investment by a corporation in another corporate member of a controlled group may be treated as a capital reduction item (216), and that reorganized corporations may use the base period income experience of their predecessors. Minor changes in the invested capital method make the rates 6 per cent between \$10,000,000 and \$200,000,000, and 5 per cent for the balance, provide that capital assets that have been disposed of are to be computed under the tax law applicable to the year of disposition, that in certain cases corporations that acquire operating deficits from other corporations may increase their invested equity accordingly (219), that reserves and unearned premiums of life insurance companies should be treated as borrowed capital (205 d and e), and that liabilities assumed with property acquired in tax free exchanges should be deducted from equity invested capital.

The value of capital stock may be declared annually, and in computing the declared value excess profits tax for a period of less than 12 months due to changes in corporations' accounting periods, instead of prorating capital stock valuation, the income tax is computed on an annual basis and the pro rata part of the resulting tax determined.



## VII. PUBLIC FINANCE AND TAXATION

### ESTATE AND INHERITANCE TAXES

BY MORTIMER M. KASSELL

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#### GENERAL

The most significant event in the field of state death taxation in 1942 was the decision in *State Tax Commission of Utah v. Aldrich* (316 U. S. 174). That decision specifically overruled *First National Bank of Boston v. Maine* (284 U. S. 312) and held that a state may impose a tax upon the transfer by death of shares of stock in a corporation incorporated under its laws even though the deceased owner was domiciled in another state. The decision followed the trend established in 1939 in *Graves v. Elliott* (307 U. S. 383) and *Curry v. McCannless* (307 U. S. 357) that the Constitution of the United States does not prohibit the multiple death taxation by the states of intangible personal property. For the preceding decade decisions of the Court had established the doctrine that the Fourteenth Amendment only permitted one state death tax. The inequity of such multiple taxation has long been recognized by the states, and the need for reciprocal exemption statutes is thereby revived.

In Federal death taxation, many important changes were made by the Revenue Act of 1942.

#### STATE TAXATION

In addition to the *Aldrich* case, the Supreme Court of the United States redefined the taxing powers of the states in *Graves v. Schmidlapp* (315 U. S. 657). The Court there overruled its decision in *Wachovia Bank and Trust Co. v. Doughton* (272 U. S. 567) and reversed the New York Court of Appeals in *Matter of Thayer* (286 N. Y. 596). The Supreme Court held that the due process clause of the Fourteenth Amendment does not preclude a state from taxing the transfer of intangible personal property, effected by the exercise by a resident decedent of a gen-

eral testamentary power of appointment created under the will of a resident of another state.

In *Riley, et al. v. New York Trust Company, et al.* (315 U. S. 343), a case which did not directly present a tax question but which was nevertheless of importance in the administration of the death tax laws of the states, the Supreme Court reaffirmed the right of each state to determine a decedent's domicile for itself and held that a judgment determining domicile, in a proceeding in a Georgia court in which a New York administrator was not a party, is not entitled to full faith and credit in Delaware with respect to such administrator. In *Riggs v. Del Drago* (63 S. Ct. 109), the Supreme Court held that the applicable state law governs in determining the ultimate impact of the Federal estate tax, and that each of the several states may provide for the apportionment of said tax among beneficiaries of an estate subject to its jurisdiction.

#### STATE LEGISLATION

There were few important legislative changes in state death tax laws. The District of Columbia provided for the compromise of death taxes in the event of a dispute as to the domicile of a decedent (Public Law 621, 77th Cong., 2d Sess.). Kentucky clarified several provisions of its inheritance tax law (House Bill 208, Laws of 1942). Nevada amended Section 1 of Article X of its constitution to provide that no inheritance or estate tax shall ever be levied. New York made several minor amendments to its transfer and estate tax laws (Chapters 76, 168, 307, 329, 498, 910, Laws of 1942).

#### FEDERAL TAXATION

In *Helvering v. Safe Deposit Co.* (316 U. S. 56) the Supreme Court

## ESTATE AND INHERITANCE TAXES

held that an unexercised general testamentary power of appointment over trust property is not an interest required to be included in the value of the gross estate of a deceased donee for purposes of the Federal estate tax, but that the value of property, received under the terms of a compromise agreement entered into by claimants in the estate of the donee, to the extent allocable to a claim based upon exercise of the power, is required to be included in the value of the gross estate of the donee.

### FEDERAL REVENUE ACT OF 1942

The Federal Revenue Act of 1942 made many significant amendments to the Federal estate tax law. It added a new paragraph (5) to section 811(d) of the Internal Revenue Code, relating to revocable transfers, and added a new paragraph (2) to section 811(e), providing for the inclusion in a decedent's gross estate of interests held as community property by a decedent in substantially the same manner as other joint interests are included. Section 811(f), relating to powers of appointment, was amended so as to require inclusion in a decedent's gross estate of property with respect to which decedent at the time of his death had a power of appointment, including certain special powers, and regardless of whether such power was exercised. The inclusion of special powers and property passing by reason of the non-exercise of a power represent a decided change.

Amendment to section 811(g), relating to proceeds of life insurance, eliminated the \$40,000 exemption theretofore allowed with respect to insurance receivable by beneficiaries other than decedent's estate, deleted the reference to "policies taken out by the decedent," required inclusion in the gross estate of insurance proceeds receivable by named beneficiaries if the decedent paid the premiums or possessed any of the incidents

of ownership at the time of his death, and made provision for the treatment of amounts received under an insurance policy transferred by the decedent if the transfer did not constitute a gift, and of premiums paid with community property.

Section 812(b) was amended so as to limit deductions for claims against an estate where there is property in the gross estate against which the claimants can proceed. Sections 812(b) and 861(a)(1) were amended to provide for the education of claims based upon charitable pledges as if such pledges constituted bequests of the decedent. Sections 812(c) and 861(a)(2) were amended to provide for a deduction for property previously taxed where only an additional estate tax had been paid by the estate of the prior decedent, thereby allowing a deduction for previously taxed property even in estates of less than \$100,000.

Sections 812(d) and 861(a)(3), relating to deductions for transfers for public, charitable, and religious uses, were amended to provide that property includable in the gross estate under section 811(f) shall be considered a bequest of the decedent, and to provide for the deduction of an interest which falls into any such bequest as a result of an irrevocable disclaimer. The latter sections were also amended so as to deny a deduction for a bequest to a trust or organization a substantial part of the activities of which consist of carrying on propaganda, or otherwise attempting to influence legislation. Sections 813(a)(1), 813(a)(2)(A) and 813(b) were amended to provide that the credit for state death taxes shall be deducted before the credit for gift taxes. Section 935(c), relating to the exemption for purposes of the additional estate tax, was amended so as to increase the amount of said exemption from \$40,000 to \$60,000. Many other amendments to related sections of the Code and to the Revenue Act of 1926 were also made.

## VII. PUBLIC FINANCE AND TAXATION

### AUTOMOBILE TAXES

BY CARROLL E. MEALEY

PRESIDENT, NEW YORK STATE TAX COMMISSION

#### GENERAL

In 1941 (full 1942 figures not available), there were 34,764,996 registered motor vehicles in this country, of which 381,829 were publicly owned. This number represents an increase of 2,357,802, or 7.3 per cent over the number registered in 1940. With the exception of a rise of 11.6 per cent in Connecticut, the only other states with increases of more than 10 per cent were in the South, Alabama being the highest with a rise of 20.6 per cent.

The revenue from registration fees and miscellaneous items, such as operators' and chauffeurs' permits, was \$490,666,000 in 1941 as compared with \$439,178,000 in 1940.

#### NEW LEGISLATION

In 1942, the legislatures of only eight states (Kentucky, Louisiana, Mississippi, New Jersey, New York, Rhode Island, South Carolina, and Virginia) were in regular session, and major changes in motor vehicle registration laws were made only in Louisiana and Virginia. In Louisiana, a new method of classification went into effect July 10, 1942. Under this law, the number of motor vehicle classifications was reduced from 14 to six, but the six classes were exclusive of private passenger cars, tractors, motorcycles, etc. which were included in the former 14 classes. The tax under the six classes ranges from \$3 to \$280, while fees on private passenger cars remain unchanged. A new feature is the licensing of animal-drawn vehicles in Louisiana, with fees ranging from 25¢ to \$1, per 100 pounds of net carrying capacity. In Virginia, the existing Division of Motor Vehicles and the post of director of the Division were abolished, and, effective July 1, 1942, a new Division of Motor Vehicles under a commissioner was created. On Jan. 1, 1943,

the basis of the registration fee of property carriers in Virginia was changed from carrying capacity to gross weight at rates ranging from 12¢ to 45¢ per 100 pounds.

#### LICENSES AND FEES

Much of the 1942 motor vehicle legislation was due to the war. New York, Virginia, South Carolina, and Rhode Island are among the states which now require only one license plate. Virginia has eliminated the three-year chauffeur licenses, and the operators' licenses expire three years after the date of issuance instead of on June 30. New York State, on the other hand, has fixed Sept. 30 as the definite date of expiration of operators' licenses and May 31 as the expiration date for chauffeurs' licenses. New York passed special legislation for persons in military service, which extends operators' and chauffeurs' licenses to one year after war service is terminated or, if a license expires prior to the end of the war, an additional year is granted. A period of three months' grace will be granted at the close of the war for those whose licenses have expired. Rhode Island will permit a person in the armed services to renew his driving license after the war, without examination. In a special session, Pennsylvania exempted from registration, even if run upon the highways, any machinery used exclusively for agricultural purposes, a provision which will be in effect until six months after the war.

#### TAX REVENUE AND REVENUE FACTORS

The automobile tax revenue picture has been seriously affected by the war. Tires and tubes were frozen in the hands of dealers in December, 1941. Since that time, they have been subject to rationing orders from

## AUTOMOBILE TAXES

Washington. In February, 1942 all civilian car and light truck production was stopped by order of the Federal Government. Gasoline rationing in the 17 states along the Atlantic seaboard was put into effect on a temporary basis on May 15, 1942, was made permanent July 21, and was extended to the entire nation on Dec. 1.

The decrease in motor vehicle revenue, due to the cessation of production and the restrictions on tires and automotive parts, was first shown in the Federal automotive excises which declined from \$88,500,000 for the first six months of 1941 to \$70,800,000 for the corresponding period in 1942, a decline of 20 per cent. This occurred despite the fact that the excise tax rates in effect in 1942 were twice as high as those in operation the previous year.

The result of the various restrictions was to decrease the number of cars registered in 1942. Although official figures for the nation are not available, registration in New York State declined 9.3 per cent and registration fees 8.5 per cent for the first ten months of the calendar year.

Federal revenue for 1942 from motor vehicles was increased by resort to a use tax, which was first levied at the rate of \$2.09 per motor vehicle for the period Feb. 1 to June 30, and at the rate of \$5 annually thereafter. During the first ten months of 1942, motor vehicles contributed \$208,600,000.

### **GASOLINE CONSUMPTION AND TAX COLLECTIONS**

The record year for motor fuel consumption in the United States was 1941 when 27,000,000,000 gallons yielded a total tax of \$957,000,000. For the first two months of 1942, the gasoline tax indicated an increased yield, but the conditions which necessitated rationing on the eastern seaboard began to make themselves felt in the following months and were followed by rationing, on the dates indicated above. Consequently, there was a continued decline in consumption over the corresponding months

in 1941, and this was reflected in falling gasoline tax collections. Federal gasoline tax collections for the first ten months of 1942 declined only 7.5 per cent, but the rate of decline for October was 11.5 per cent. In New York State the decline in the yield of the motor fuel tax was 19.3 per cent for the first ten months of the year, and 37.3 per cent for November.

The District of Columbia raised its gasoline tax rate from 2¢ to 3¢ a gallon on Jan. 1, 1942. Louisiana amended its gasoline tax law so as to make gasoline sold, rather than gasoline received, the base of the tax, and a 3 per cent deduction in tax liability was permitted for handling. Mississippi imposed a 6¢ per gallon tax on gasoline used in interstate commerce, if the gasoline was bought outside Mississippi. Virginia placed a similar tax on carriers using Virginia highways, but gives a 2¢ refund on all airplane gasoline rather than limiting it merely to the gasoline used in flying over the state. New York extended to June 30, 1942 the two additional 1¢ per gallon taxes on gasoline, thus maintaining the total tax at 4¢. South Carolina now has placed the gasoline tax directly on the consumer rather than on the distributor, and its 6¢ per gallon tax has been extended to all motor fuels used on the highways. Rhode Island discontinued the exemption of gasoline used by fishermen, lumbermen, farmers, and manufacturers. Maine, in a special session, made taxable the gasoline sold to municipalities and to the state itself, and removed all refunds on gasoline used in airplanes.

### **THE EFFECTS OF THE WAR**

The repercussions from the decrease in motor vehicle and motor fuel tax revenue will be far-reaching, because about 25 per cent of the total yield is shared with the localities and 15 per cent has been used for non-highway purposes. Those states and localities which have been relying heavily on motor vehicle and motor fuel taxes will be forced to



## VII. PUBLIC FINANCE AND TAXATION

seek revenues elsewhere if they are to maintain present levels of governmental services. While the effects of wartime conditions are just beginning to be felt, the continuation of the war for any great length of time may cause sweeping revisions in state and local tax practices, unless some form of Federal aid is devised to reimburse them for the contributions made to the war effort in this form of lost tax revenue.

### PERIODICAL PUBLICATIONS

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<i>American Economic Review</i> Northwestern Univ., Evanston, Ill.	<i>Journal of Political Economy</i> 5750 Ellis Ave., Chicago.
<i>Annals, The</i> American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.	<i>Nation's Business</i> Chamber of Commerce of the United States, Washington, D. C.
<i>Business Week</i> 330 West 42nd Street, New York City.	<i>Tax Digest</i> 15 East 26th Street, New York City.
<i>Commercial and Financial Chronicle</i> 25 Spruce Street, New York City.	<i>Tax Magazine</i> 350 Fifth Ave., New York City.
<i>Journal of Economics</i> Harvard University Press, Cambridge, Mass.	<i>Tax Policy</i> 135 S. 36th Street, Philadelphia.
	<i>Taxes for Democracy</i> 135 S. 36th Street, Philadelphia.

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut Street, Philadelphia.	ASSOCIATION, Room 236, State House, Boston, Mass.
AMERICAN TAXPAYERS' LEAGUE, Munsey Bldg., Washington, D. C.	NORTH AMERICAN GASOLINE TAX CONFERENCE, 844-46 Consolidated Bldg., Indianapolis, Ind.
INSTITUTE OF LOCAL AND STATE GOVERNMENT, University of Pennsylvania, Philadelphia.	RESEARCH INSTITUTE OF AMERICA, INC., THE, 292 Madison Ave., New York City.
NATIONAL HIGHWAYS ASSN., Bass River, Cape Cod, Mass.	TAX INSTITUTE, 135 S. 36th Street, Philadelphia, Pa.
NEW ENGLAND STATE TAX OFFICIALS	TAX REVISION COUNCIL, 850 E. 58th Street, Chicago, Ill.

## DIVISION VIII

### PUBLIC RESOURCES AND UTILITIES

#### FEDERAL SURVEYS AND MAPS

BY K. T. ADAMS

CHIEF, TOPOGRAPHY SECTION, U.S. COAST & GEODETIC SURVEY

##### GENERAL

The United States Government requires many surveys and maps in connection with administration and other activities and functions, and it is not surprising that there are some 30 separate agencies which engage in surveying or mapping to some extent. Maps are needed to record the natural resources of the earth's surface, the cultural development thereon and man's relation thereto, and for military purposes.

The entry of the United States into the Second World War has accelerated many of the mapping and surveying activities of the Federal Government, in some cases to an unprecedented extent, although naturally some peacetime mapping has been curtailed. In war, maps are as essential as bullets, and a vast number of maps of both this country and foreign countries are now being compiled for military use. For the duration of hostilities the issue of practically all maps and charts is restricted and many of those being prepared are of a secret or confidential nature. Much information regarding Federal surveys and maps must be withheld from publication at present.

The Army Air Forces are fighting in every theater of war and an amazing number of aeronautical charts are required. Many of the established agencies experienced in map compilation are cooperating with the Air Forces in providing these at an ac-

celerated rate. The U. S. Corps of Engineers inaugurated a cooperative mapping program in which five of the mapping agencies are surveying and mapping strategic areas in the United States. The results of this work will be published as standard topographic quadrangles and will be a valuable contribution to the mapping of the country.

##### SURVEYING AND MAPPING AGENCIES

The primary function of certain agencies is mapping and surveying, while certain others engage in no surveying but do occasionally compile and publish maps. Among the former, the Coast and Geodetic Survey establishes the basic geodetic control throughout the country and surveys and publishes charts of the coastal waters of the United States and possessions; the Geological Survey surveys and publishes geologic and topographic maps (quadrangles) of the country; the General Land Office surveys the public lands; and the Hydrographic Office surveys and publishes charts of foreign waters.

A Map Information Office is maintained in the Geological Survey, which serves as a central clearing house to furnish, to the various government agencies and the public, information relative to surveys, and existing maps and air photographs.

The progress of the more important surveys and mapping, except that

## VIII. PUBLIC RESOURCES AND UTILITIES

which is confidential, is reported under the various department and agency headings. Compiled special purpose maps are published infrequently by several other agencies. The Office of Geographer of the Department of State publishes maps in connection with treaties and other duties of that Department. The Division of Maps of the Library of Congress publishes special maps, often of historical significance. The International Boundary Commissions have published maps along the international boundaries based on accurate surveys of those areas.

### MAP OF THE AMERICAS

The Map of the Americas, scale 1:5,000,000, in three parts, described in *THE AMERICAN YEAR BOOK*, 1941 (p. 248) has been completed and is available.

### DEPARTMENT OF WAR

As a result of the war emergency the military mapping program of the Corps of Engineers was enlarged greatly during 1942. Topographic units of the Corps expanded their facilities and personnel to provide for the completion of many projects in important strategic areas far in advance of normal schedule.

More important in the military mapping program was the fact that other government mapping agencies which had personnel and equipment available for the expeditious performance of military mapping, cooperated with the War Department in its mapping efforts. Thus, during 1942 the country's greatest mapping program was inaugurated.

The maps being prepared are in standard quadrangle form such as have been issued in the past by the Geological Survey and the Corps of Engineers. Accuracy is not being sacrificed for speed in the preparation of the maps. For this reason, although maps and charts are withdrawn from sale to the public for the duration of the emergency, the country will emerge from the war with excellent maps covering large areas of the na-

tion which were heretofore unmapped.

In addition to the military mapping program the Corps of Engineers, the Mississippi Commission, and the Lake Survey, continued the activities described in *THE AMERICAN YEAR BOOK*, 1941 (p. 249).

### POST OFFICE DEPARTMENT

The post-route and other maps prepared by the Post Office Department were described in *THE AMERICAN YEAR BOOK*, 1940 (p. 287).

### NAVY DEPARTMENT

The Hydrographic Office publishes nautical charts of the navigable waters of foreign countries and aviation charts of strategic foreign areas; and makes surveys of foreign waters.

In anticipation of the present war all naval vessels were provided with world-wide coverage of nautical charts. Since the outbreak of hostilities practically all the activities of the Hydrographic Office have been confidential. The magnitude of the usual peacetime operations and the construction and issue of special nautical and aeronautical charts, as well as surveys and other oceanographic activities, can not be revealed at this time.

### DEPARTMENT OF THE INTERIOR

The Geological Survey published during the year 215 new topographic maps, 57 planimetric maps, 17 topographic maps in advance-sheet form, 13 special maps, and one geologic folio. Reprints were made of 309 topographic maps and of 17 state and other maps.

New topographic surveys were completed of areas totaling 26,162 square miles and revised topographic maps covering 1,831 square miles in 33 states and Puerto Rico. More than average areas were mapped in Alabama, Arizona, California, Louisiana, Maine, Missouri, Tennessee, and Washington. Planimetric maps of 3,212 square miles, of areas in Wisconsin, Louisiana, Kansas, Georgia, and Idaho, were compiled from air photographs for preliminary publica-

## FEDERAL SURVEYS AND MAPS

tion prior to the addition of contours.

Control surveys in connection with this mapping consisted of 317 occupied triangulation stations, 7,587 linear miles of transit traverse, and 10,054 linear miles of leveling—all of third-order accuracy or higher. Two bulletins, 883-D and 883-E, comprising the fourth and fifth of seven parts of spirit leveling in Texas, were published during the year and three of the four parts of a bulletin of spirit leveling in Illinois were prepared for publication.

Air photographs covering 33,511 square miles were procured or contracted for during the year for use on mapping projects.

Puerto Rico, 18 states, the Tennessee Valley Authority, and the War Department cooperated with the Geological Survey in the foregoing work.

Progress was continued on the Millionth Map of the World. Sheet NK-16, Chicago, was completed for publication and the compilation and drafting of sheets NK-17, Lake Erie, and NI-18, Hatteras, were in progress.

The Transportation Map of the United States, scale 1:250,000, prepared for the Public Roads Administration, progressed. Maps of two states, comprising 24 sheets, were published, and maps of one state, comprising 12 sheets, were in course of publication.

Four topographic mapping projects that involved field surveys in Alaska were in progress. The Alaska Branch is also compiling from photographs a large number of aeronautical charts for the Army Air Forces.

The Conservation Branch in connection with its work executed topographic and profile surveys of 68 linear miles of streams, and topographic surveys of nine dam sites and one mineral leasehold.

The General Land Office, the Office of Indian Affairs, the National Park Service, and the Fish and Wildlife Service continued their activities as previously described in *THE AMERICAN YEAR BOOK*, 1941 (p. 250).

The Board on Geographical Names (see *THE AMERICAN YEAR BOOK*, 1940,

p. 288) rendered decisions on 444 geographic names.

### DEPARTMENT OF AGRICULTURE

The Agricultural Adjustment Agency makes neither planimetric nor topographic maps, but has prepared mosaics and photomaps covering over 100,000 square miles from its air photographs which cover more than 2,000,000 square miles. Practically all of these photographs are approximately at a scale of 1:20,000 and are suitable for use in mapping. Ratioed and rectified reproductions of the air photographs are used extensively to determine ground areas in connection with its programs.

The Bureau of Agricultural Economics is not engaged in actual mapping from field surveys, but compiles a large number of base maps for the portrayal of agricultural statistical data. These maps are usually on a country, state, county, or township basis. This Bureau is also engaged in compiling, from the best available source material, aeronautical charts for the Army Air Forces.

The Forest Service published approximately 51 maps of National Forest areas during the year. These maps were prepared from air photographs, by ground methods, and from other available data on scales of 1, 2, or 4 miles to 1 inch. Air photographs for use in mapping and land utilization studies were obtained covering 5,833 square miles. Planimetric maps were prepared for 13,284 square miles and topographic maps for 656 square miles. The Forest Service is also mapping approximately 4,345 square miles of area for the War Department for publication as topographic quadrangles on scales of 1 and 2 inches equals 1 mile.

The Division of Soil Survey, Bureau of Plant Industry, issued during the year nine soil survey reports with maps, bringing the total number of published surveys up to 1,508. The new reports were issued for the Sacramento-San Joaquin Delta Area, California; Catoosa County, Georgia; Story County, Iowa; Roseau County, Minnesota; McKenzie County, North



## VIII. PUBLIC RESOURCES AND UTILITIES

Dakota; Puerto Rico; Jefferson County, Tennessee; Maverick County, Texas; and Greenbrier County, West Virginia. These maps were described in *THE AMERICAN YEAR BOOK*, 1940 (p. 288). Detailed surveys of approximately 12,000 square miles and reconnaissance surveys of approximately 2,000 square miles were made during the year in cooperation with 30 states. At the close of the year 47 reports of previous surveys were at press, 117 were in various stages of preparation for printing, and 45 surveys were in progress in the field.

The Soil Conservation Service published during the year a total of 174 maps of various types. Planimetric maps, scale 4 inches equals 1 mile, were compiled covering 4,717 square miles. These maps and their use were described in *THE AMERICAN YEAR BOOK*, 1940 (p. 288). Contracts were awarded for air photographs of approximately 59,000 square miles, of which 40,000 square miles were completed during the year. These air photographs are used for many purposes in addition to the construction of planimetric and topographic maps, such as bases on which physical survey data are compiled, and for indicating revised farm plans. Field control surveys were completed on eight areas totaling 3,659 square miles. Office control compilation approximated the same figure. In addition to the regular work, an extensive mapping program for the War Department was started in 1942 for the production of topographic quadrangles on a publication scale of 2 inches equals 1 mile. Field work is in progress on this area of 5,000 square miles. Control for a series of planimetric maps on publication scales of 1:100,000 and 1:125,000 was started.

### DEPARTMENT OF COMMERCE

The Coast and Geodetic Survey during 1942 published 10 new nautical charts of waters of the United States and possessions, of which seven were for naval use. Most of these were based on complete new hydrographic

and topographic surveys of the respective areas. The total number of nautical charts, which are under constant revision and of which revised editions are frequently issued, is 806, of which 163 are of Philippine Islands waters.

Hydrographic surveys were made covering 16,204 square miles, in which 44,068 linear miles of soundings were run. Topographic surveys were made covering 2,062 square miles. The coastal areas in which the principal surveys were concentrated were the Gulf of Maine, the northern part of Puget Sound, and Alaska.

Control surveys were made in the United States and Alaska, including 2,105 linear miles of first-order triangulation covering 26,580 square miles; 2,475 linear miles of second-order triangulation covering 24,614 square miles; and 3,543 miles of first-order and 8,876 miles of second-order leveling. Reconnaissance for future triangulation extended along 3,402 linear miles of arc covering 47,535 square miles. The areas involved were in 27 states and Alaska.

The 126 aeronautical charts comprising the standard series of the United States and possessions, which were described in *THE AMERICAN YEAR BOOK*, 1940 (p. 289), and 1941 (p. 251) have all been completed. Revised editions are frequently issued. The compilation of aeronautical charts for the Army Air Forces was at a vastly expanded and accelerated rate.

Eighteen new planimetric maps of coastal areas were published, bringing the total of these available to 715. About 150 additional maps have been compiled and are awaiting processing or publication. These maps were described in *THE AMERICAN YEAR BOOK*, 1940 (p. 289). During the year planimetric maps were completed in the following areas: Eastern shore of Chesapeake Bay, Tampa Bay and vicinity, Lake Okeechobee, Maine coastal area. Additional areas photographed in collaboration with the U. S. Coast Guard were: James River in Virginia, southern part of Maine coast, and in Alaska.

## FEDERAL SURVEYS AND MAPS

The Coast and Geodetic Survey is making topographic map quadrangles, scale 2 inches equals 1 mile, for the War Department in a number of areas on the East Coast, totaling about 15,500 square miles. This work is done by photogrammetry and ground survey methods combined.

The Weather Bureau compiles and publishes the daily weather maps, and other maps which chart various meteorological data. The Bureau of the Census compiles many maps for its own use in population and other census tabulation studies, a few of which are published. The Bureau of Foreign and Domestic Commerce compiles and publishes special, usually small scale, charts on which are depicted amount and flow of commerce and other statistics.

### FEDERAL WORKS AGENCY

The Public Roads Administration, in cooperation with the State Highway Departments, is conducting highway planning surveys throughout the country which will eventually provide a complete series of state and county maps showing the location of 2,963,000 miles of rural roads and the character of culture served by them.

The state maps, generally on a scale of 1:500,000, have been completed in 35 states and partly completed in three others.

The county maps, generally on a scale of either 1 inch equals 1 mile or 1:62,500, were fully described in *THE AMERICAN YEAR BOOK*, 1939 (p. 276) and 1940 (p. 290). They have now been completed for approximately 98 per cent of the 3,070 counties in the United States. Maps for 39 additional counties were issued in 1942. Maps for the remaining 111 counties are in progress. Many of the states are also reproducing this series at half scale, 1 inch equaling approximately 2 miles, by lithographic methods and can furnish complete sets in atlas form for their states.

The supplemental series of county maps showing rural post roads, school bus routes, and traffic flow data (see *THE AMERICAN YEAR BOOK*, 1941, p.

252) are approximately 75 per cent complete.

The state and county maps described above are produced in cooperation with the State Highway Departments and are obtainable only from those departments.

Transportation Maps, scale 1:250,000, (see *THE AMERICAN YEAR BOOK*, 1941, p. 252) for 24 states, comprising 182 sheets, have now been published. These include 75 sheets for 13 states which have been revised. In addition to the maps previously reported, there are now available 12 maps of Minnesota and 12 maps of Utah.

### TENNESSEE VALLEY AUTHORITY

For several years the Tennessee Valley Authority has systematically surveyed and published standard topographic quadrangles of its area, completing approximately 3,000 square miles each year. Final-edition maps, scale 1:24,000, have been published of approximately 9,500 square miles, mostly in eastern Tennessee and western North Carolina, with small areas in southwestern Virginia and northern Georgia. Scattered quadrangles have been mapped in northern Alabama, central and western Tennessee, and western Kentucky. These maps are compiled mainly by the multiplex stereophotogrammetric method from air photographs. This phase of the work is handled by the U. S. Geological Survey for the Authority.

In 1942 the Authority began the mapping for the War Department of several thousand square miles in New York and in Texas. A large part of the Authority's mapping organization and equipment is now engaged on this emergency project, correspondingly fewer topographic quadrangles in the Tennessee Valley area being produced. The military topographic quadrangles for the War Department are prepared both by multiplex and by planetable, at a manuscript scale of 1:20,000, for reproduction at a scale of 1:31,680 (2 inches equals 1 mile).

The Authority makes extensive property surveys and cadastral maps

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for the purpose of land acquisition in connection with its multi-purpose reservoir projects. Navigation charts of the new reservoirs created by the dams recently built on the Tennessee River System are being prepared and published, usually on the scale of 2 inches equals 1 mile.

### STATE GEOLOGICAL SURVEYS

BY ROBERT H. DOTT

SECRETARY, ASSOCIATION OF AMERICAN STATE GEOLOGISTS

#### GENERAL

Minerals are becoming increasingly important in the war effort of the United States, and governmental and industrial research agencies are bending every effort to find new supplies and new methods of utilizing low-grade supplies. Throughout 1942 the press carried news and feature articles about shortages in iron, copper, and other vital metals, and new processes for extracting magnesium, aluminum, and the like. Truly, this is an industrial war, a war of mechanical weapons; and the adequacy of minerals, including fuels, will determine the victor.

State Geological Surveys during 1942 devoted most of their efforts toward seeking new supplies of needed minerals, and water supplies for war industries and military establishments such as cantonments, training camps, flying fields, etc. Many of these projects have been in cooperation with the Federal Geological Survey, Bureau of Mines, and other agencies.

The idea of tax-supported bureaus for the investigation of the geology, mineral resources, and natural history of a state dates back to the early part of the nineteenth century, and today such bureaus are publicly supported in 42 states. Initially, with geological knowledge of the United States limited to notes of a few exploration trips by European geologists and naturalists, the task of the State Surveys was one of basic investigation and description of the rocks exposed at the surface. As this work progressed, useful minerals were discovered and described, and the information made available, so that the

more important deposits were developed by enterprising citizens.

In the last quarter of the nineteenth century, the Federal Government found itself with enormous areas of public domain, which home-seekers were demanding be opened for settlement. It became the national policy that mineral lands be restricted, and in order that these might be located and withheld, a Federal Geological Survey was organized. This has grown greatly in usefulness and has supplemented the work of the states, so that much of the necessary basic work has been done in most states, at least in a reconnaissance manner.

#### TRENDS OF STATE SURVEY WORK

The past quarter-century has seen a shift in the emphasis of state survey work, and the significant trends are summarized by State Geologist Arthur Bevan of Virginia:

"General tendencies in state geological survey work during recent years have been as follows:

"1—Greater emphasis upon the practical usefulness of all kinds of field and laboratory data without minimizing the need of more fundamental basic data; hence, pure geologic research and industrial applications have become the 'Siamese twins' of most Survey programs.

"2—Trends have been steadily from general data to precise data; from qualitative facts to quantitative facts; from routine geologic methods to engineering methods.

"3—Field techniques have included geophysical methods of exploration and the use of aerial photography.

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"4—Laboratory research has become based upon more refined and more precise techniques, such as those involving X-ray and spectrographic analysis.

"5—The object of much field work may be stated to be the determination of the three-dimensional relations of every rock and mineral deposit.

"6—The object of much laboratory research has become the determination of the exact kinds, proportions and relations of all the constituents of mineral resources having present or potential industrial uses, especially for coal, clays, and other nonmetallic mineral resources.

"7—Hence much progress is being made in the beneficiation of many materials that previously have not been considered as particularly amenable to such treatment.

"8—Much attention is given in some states to the very important field of mineral economics. It is now realized locally that the field-to-laboratory research must be coupled also with laboratory-to-market research.

"9—Ground-water geology is obtaining attention somewhat more consistent than formerly, with its scientific and economic importance. It has become a major field of survey work in several states.

"10—State geological survey work has become more recognized as an integral part of forward-moving state governments and the progressive, well-planned development of the resources and industries of a state."

### ALABAMA

#### Basic and Economic Geology.—

*Projects:*\* (Partly in cooperation with U. S. G. S.) Manuscript on the Hillahee schist; (*do.*) Pinckneyville granite; analysis of drill cores from oil and gas test wells in Alabama; manuscript on Alabama coal beds; (*do.*) on red iron ores of northeast Alabama; (*do.*) on manganese; special investigations

\* Projects and publications are listed without description. Details available from respective state geologist. Abbreviations: U.S.G.S.—U. S. Department of the Interior, Geological Survey; U.S.B.M.—*do.*, Bureau of Mines; WPA—Work Projects Administration.

on Tin Region in Alabama; Statewide mineral survey (cooperation with WPA). *Publications:* Natural Resources of the Tennessee Valley Region in Alabama (*Spec. Rept. 17*); The Talc Deposits of Talladega County (*Circ. 16*); Brown Iron Ores of the Chulafinnee District (*Circ. 17*).

**Water Resources.**—*Projects:* (Cooperation with U.S.G.S.) Investigations of ground water in south Alabama; Investigations of surface water in Alabama. *Publications:* Fluoride in the Ground Water of the Cretaceous Area of Alabama (*Circ. 18*); The Ground Water Resources of the Cretaceous Area of Alabama.

**Others.**—*Projects:* Revision of The Flora of Alabama. *Publications:* Anthropological Studies at Moundville (*Mus. Paper 15*); The Bessemer Site (*Mus. Paper 17*); McQuorquodale Mound, a Manifestation of the Hopewell Phase in South Alabama (*Mus. Paper 19*); Mound State Park (*Mus. Paper 20*); Forests in Alabama (*Mon. 10*); Know Alabama—Geology and Natural Resources of Alabama, a Bibliography for Schools (*Bull. 51*).

### ARIZONA

#### Basic and Economic Geology.—

*Projects:* Exploration program for war minerals (cooperation with U.S.G.S. and U.S.B.M.); investigation of asbestos deposits (cooperation with U.S.B.M.). *Publications:* Superior Mining District.

### ARKANSAS

#### Basic and Economy Geology.—

*Projects:* Investigation of lignite deposits in south-central Arkansas; (*do.*) iron ores in northwestern Arkansas; State Mineral Survey (cooperation with WPA), field work completed for minerals and culture on 50 counties, project terminated June 30, 1942. *Publications:* Availability of Arkansas Coal for use in Steam Electric Power Generating Plants; List of Publications of the Arkansas Geological Survey; Arkansas Minerals for War; Mineral Resources of Arkansas—a chapter for the school textbook—Ar-



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kansas's Natural Resources, Their Conservation and Use; Mineral Resources of Arkansas (*Bull. 6*); Kaolin Deposits of Southern Pike County, Arkansas (*Bull. 7*); Pitkin Limestone of Northern Arkansas (*Bull. 8*); Mining Law in Arkansas (*Bull. 9*); Mineral Resources of Montgomery, Garland, Saline, and Pulaski Counties (County Min. Repts. #3); Elevations in Arkansas, (*Inf. Circ., #6*, Vol. 1, republished).

**Topographic Mapping.**—Mapping in central Arkansas, installation for magnetic stations for triangulation, leveling, and traversing (cooperation with WPA); topographic mapping program (cooperation with U.S.G.S.); office computations preliminary to contour mapping, completed on Cato, Mayflower, Pinnacle, Cabot, Olmstead, Jacksonville, Scott, Sheridan, Conway, Enola, and Beebe quadrangles; Batesville quadrangle remapped (nine maps); Magnet Cove portion of Malvern quadrangle being remapped. *Publications:* Index maps of topographic quadrangles (revised).

**Water Resources.**—*Projects:* Study of ground and surface waters of Arkansas, in connection with State Mineral Survey (cooperation with WPA). Stream gaging program in cooperation with U.S.G.S.

**Others.**—*Publications:* Annual Administrative Report of the State Geologist for the period Dec. 1, 1941–Nov. 30, 1942.

### CALIFORNIA

**Basic and Economic Geology.**—*Projects:* The Division of Mines, Department of Natural Resources has 1 general project, and 4 on metallic minerals. *Publications:* Chromite Deposits of California; Geologic Formations and Economic Development of the Oil and Gas Formations of California; Coso Hot Springs, with Geologic Map; Cargo Muchacho Mountains, with Geologic Map; Twin Lakes, with Geologic Map; Mineral Resources of Trinity County; (*do.*) Imperial County; Strategic Minerals Procurement; Tabulated List of

Tungsten Deposits; Administrative and Other Reports; Economic Mineral Map, Oil and Gas (No. 2); (*do.*) Chromate (No. 3); (*do.*) Tungsten (No. 4); miscellaneous mining maps.

### COLORADO

**Basic and Economic Geology.**—*Projects:* Colorado does not have a State Geologist. The work of the Geological Survey is handled through the Geological Survey Board, and consists entirely of cooperative work with the U.S.G.S., on a matched-funds basis, the work being done under the supervision of the U.S.G.S.

For the past year, cooperative work consisted almost entirely of mining geology as it refers to the exploration for strategic minerals. Groups of geologists were still in the field in October and were there virtually all summer. They continue to extend the possibilities of further production of zinc, copper, lead, molybdenum, fluor-spar, tungsten and other metals.

Besides the cooperative work, the Colorado School of Mines, under its Prospector Service, is spending \$3,000 to \$4,000 yearly for the identification and analyses of samples. This work too is directed towards the development of strategic minerals.

### CONNECTICUT

**Basic and Economic Geology.**—*Projects:* Geological projects have principally been concerned with war materials, looking for new products, obtaining more information on known ones, and seeking development for national needs. Peat deposits are being investigated, and some development is taking place. Magnesium is being extracted commercially from dolomite, and iron, manganese, and nickel will soon receive attention. Mica mining has increased 500 per cent, and investigations are being made on kyanite.

### FLORIDA

**Basic and Economic Geology.**—*Projects:* Ecology, physiography, and geology of a portion of southern Florida; stratigraphy and paleontologic

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studies of wells in Florida; summary and compilation of the production of minerals in Florida. *Publications*: Stratigraphic and Paleontologic Studies of Wells in Florida, No. 2 (*Bull.* 20); The Geology of Holmes and Washington Counties, Florida, including geologic maps. (*Bull.* 21); Contributions to Florida Vertebrate Paleontology (*Bull.* 22); Florida Dunes and Scrub, Vegetation and Geology (*Bull.* 23).

**Water Resources.** — *Projects*: Springs and lakes of Florida (cooperation with U.S.G.S.). *Publications*: Artesian Water in Florida, West of the Suwannee River.

### GEORGIA

**Basic and Economic Geology.**—*Projects*: 12 county surveys, general exploration and prospecting; drilling two deep wells (stratigraphy); investigations of coal reserves; exploring and estimating reserves of red and brown iron ores, manganese ores, bauxite, and chromite; field investigations of deposits of mica, corundum, asbestos, graphite, copper, kyanite, dolomitic marbles, limestones, sericite, vermiculite, pyrite, olivine, and serpentine. *Publications*: Forsterite Olivine Deposits of North Carolina and Georgia (*Bull.* 47); Geology of the Crystalline Area of Georgia (*Bull.* 48); Magnetic Roasting Tests on Cartersville Manganese Ores (*Info. Circ.* 13); Dolomites and Magnesian Limestones in Georgia (*Info. Circ.* 14); Geology of the Sand- Lookout Mountain Area, Northwest Georgia (*Info. Circular* 15). Rock Wool Experiments During 1942; Museum of Natural Resources of Georgia (Special).

**Topographic and Planimetric Mapping.**—*Projects*: Topographic mapping conducted by U.S.G.S., independently of state; planimetric and control surveys conducted by the State Highway Planning Board, and Board of Health. *Publications*: Topographic maps by U.S.G.S.; planimetric maps by State Highway Department.

**Water Resources.** — *Projects*: Stream gaging, investigations of

ground water, and quality of water (Cooperation with U.S.G.S.).

### ILLINOIS

**Basic and Economic Geology.**—*Projects*: stratigraphy of the Pennsylvanian system; *do.* Mississippian system; pleistocene system; micro-paleontological studies of pre-Mississippian, Mississippian, and Pennsylvanian; paleobotany of Pennsylvanian system; Carboniferous trilobites; areal investigations and geologic mapping; special investigations of oil, gas, and coal; annual statistical and economic review of Illinois' mineral industries; revision of Geologic Map of Illinois; development maps of active oil fields of Illinois; monthly reports on drilling activity; annual report on oil and gas development; geology and oil and gas resources of Illinois basin; scouting of drilling wells, and cooperation with Illinois Scout Check; chemical characters of crude oil, and their geologic occurrence; physical and chemical tests on oil sand cores; physical properties of the Bethel (Benoist) sandstone in south-central Illinois; secondary recovery of oil; relation of coal strip mining and agriculture (Cooperation with Univ. Dept. of Agri., U. S. Dept. of Agri., and Illinois Nat. Hist. Survey); general coal report; lithologic and botanical constitution of Illinois coals, including chemical study of oxidation of coal; smokeless briquets from Illinois coals; studies of commercially prepared coals—commercial fines, correlation of stoker combustion with laboratory tests, and types of coal; nature of moisture in coal; proximate and ultimate analyses of Illinois coal; deterioration of laboratory samples of coal; study of spore content of coal beds through the Pennsylvanian rocks, as possible index fossils; fluorspar resources of southern Illinois; feldspar-bearing sands; surface clay resources; clay and clay products (Cooperation with Dept. of Ceramic Engineering, Univ. of Illinois); clay resources of western Illinois; Illinois clays and shales as mortar mix; petrology of Illinois clays; binding properties of clay (Cooperation with Dept. of Me-

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chanical Engineering, Univ. of Illinois, sponsored by Illinois Clay Products Co.); composition and base exchange characteristics of Illinois clays and shales—relations to their ceramic and other properties; removal of pyrite from clay by air separation; high-purity dolomite in northern Illinois; soundness of dolomites of Chicago area (Cooperation with State Hwy. Div., and Univ. of Illinois Engineering Exp. Sta.); crushing and pulverizing characteristics of Illinois limestone and dolomite; building stone resources; agricultural limestone resources; reconnaissance of sand and gravel resources for road materials; mineral resources of Illinois waterway. *Publications*: Contributions to Pennsylvanian Paleobotany: *Mazocarpon Oedipternum*; sp. nov., and *Sigillarian* relations (*Rept. Inv. 75*); Chester (Mississippian) Ostracodes (*Rept. Inv. 77*); Contribution to Pennsylvanian Paleobotany—Notes on the Lepidocarpaceae (*Circ. 73*; reprint from *Amer. Midland Nat.* 1941); Periglacial Involutions in Northeastern Illinois (Reprint from *Jour. Geol.* 1942); Surface Structure Map of Shelby, Effingham, and Fayette Counties—Explanation and Stratigraphic Summary (*Rep. Inv. 76*); Oil and Gas Development in 1940 (*Ill. Pet. 37*; Reprint with additions from *Trans. Am. Inst. Min. Met. Eng.* 1941), Developments in Eastern Interior Basin in 1940 (*Ill. Pet. 38*; Reprint from *Bull. Amer. Assoc. Petro. Geol.* 1941); "Trenton" Production in Illinois (*Ill. Pet. 39*); A Field Test on the Use of Fibre Pipe as a Substitute for Steel in Cementing Oil Wells (*Ill. Pet. 40*; Reprint from *Oil & Gas. Jour.* 1942); Role of Fundamental Geologic Principles in the Opening of the Illinois Basin (*Circ. 75*; Reprint from *Econ. Geol.* 1941); Status of the Carbon-Ratio Theory in Illinois (*Circ. 79*; Reprint from *Trans. Ill. Acad. Sci.* 1941); Oil and Gas Drilling Reports (Monthly, mimeograph); Bituminous Coal Movements in the United States (*Circ. 76*; Reprint from *Geogr. Review* 1942); Predicting the Behavior of Clay (*Circ. 77*; Reprint from *Brick and Clay Record*, 1940); Immediate Need for Research in the Structural Clay Products

Industry (*Circ. 80*; Reprint from *Bull. Amer. Ceram. Soc.* 1942); Agricultural Limestone Used in Illinois in 1942, Preliminary Report (*Circ. 82*); Halloysite Clay in Illinois (*Circ. 83*); Oil and Gas Map of Illinois (1941 edition); Oil and Gas Development Maps (blue-line prints).

**Topographic Mapping.**—*Projects*: Mapping Enfield, Maquon, McLeansboro, Mount Carroll, Newton, St. Elmo, Shelbyville, and Toulon quadrangles. (Cooperation with U.S.G.S.). *Publication*: Delavan quadrangle.

**Water Resources.**—*Projects*: Electrical earth resistivity surveys for subsurface water-bearing sand and gravel deposits; study of well cuttings and cores, and collection of subsurface data; study of the stratigraphy and structure of northeastern Illinois with special references to the ground water resources of the Joliet region; cooperation with the State Water Supply Division; cooperation with the Illinois Water Well Drillers Association.

**Soil Surveys.**—*Projects*: Information cooperative work on geology of Illinois soils, with the State Soil Survey.

**Others.**—*Publications*: Illinois Mineral Industry in 1940, Part II, Historical Summary 1919-1939 (*Rept. Inv. 74*, Pt. I); Directory of Illinois Clay and Clay Products Producers, Jan. 1, 1942 (*Circ. 78*); List of Publications, Sept. 1, 1941.

## INDIANA

**Basic and Economic Geology.**—*Projects*: The geology of parts of Clark and Floyd Counties; study of stratigraphic and structural conditions in the old Trenton oil and gas area; *Publications*: Monthly Oil and Gas Drilling Report; Oil and Gas Activity in Indiana in 1941 (*Trans. A.I.M. M.E.*, Vol. 146, 1942); Oil and Gas Map of Indiana.

**Topographic Mapping.**—*Projects*: Wheatland, Frichton, Verne, Monroe City, Montgomery, Washington, Sandy Hook, Glendale, DuBois, Jasper, Huntingburg, and Kyana quadrangles, each 7½ minutes of latitude and longitude (cooperation with U.S.G.S.). *Publications*: Bright, East



## STATE GEOLOGICAL SURVEYS

Enterprise, Sullivan, Merom, Oaktown, Carlisle, Oaktown Southwest, Bicknell, Newberry, Marco, Plainville, and Elnora, each 7½ minute sheets.

**Water Resources.**—*Projects:* A study of the ground water conditions in the Indianapolis area.

### IOWA

#### **Basic and Economic Geology.**—

*Projects:* Pleistocene history of the Mississippi River; Illinoian and post-Illinoian Pleistocene geology of Iowa; stratigraphy of the upper Des Moines Series; stratigraphy of the lower Des Moines series; pyrite associated with Iowa coal; possibility of producing iron in Iowa; possibility of renewing the production of lead and zinc in Iowa; ceramic shales and clays of Iowa; ceramic properties of underclay.

**Water Resources.**—*Projects:* Geology and ground water resources of Cerro Gordo County. *Publications:* Summaries of Yearly Flood Flow Relating to Iowa Streams (*Water Supply Bull.* 1).

### KANSAS

#### **Basic and Economic Geology.**—

*Projects:* Geology and oil and gas resources of Crawford County; subsurface studies of the Arbuckle formation of Kansas; Geology and mineral resources of Barber County; Pennsylvanian and Permian bryozoa; Permian corals; stratigraphy of upper Des Moines and lower Missouri rocks in eastern Kansas; investigations of storage possibilities of Kansas salt mines; study of micropaleontology and subsurface stratigraphy of the Des Moines series of Kansas; oil and gas developments in western Kansas during 1942; oil and gas fields of eastern Kansas; oil and gas in Bourbon County; detailed study of the McLouth oil and gas field; oil and gas in Miami County; detailed study of the Hugoton gas field; subsurface study of the Forest City basin; collection of well samples and cores; study of mines in the Cherokee coal beds in Leavenworth and Atchison Counties; coal resources of the Douglas group in east-central Kansas; investigation of alumina-rich concentrates in Kansas

clay deposits; analysis of oil field brines in Kansas, with particular emphasis on their magnesium content; Dakota clays of Kansas; moulding sand resources of Kansas; analysis of limestones of Kansas. *Publications:* Kansas Mineral Resources for War-time Industries; Lophophyllid Corals from Lower Pennsylvanian Rocks of Kansas and Oklahoma; Pleistocene Mammals from Kansas; A New Species of Cyprinodontid Fish from the Middle Pliocene of Kansas; Mineral Resources of Phillips County; Stratigraphy of the pre-Greenhorn Cretaceous Beds of Kansas; Kansas Bentonite; Its Properties and Utilization; New Carboniferous and Permian Sponges (*Bull.* 41, parts 3, 5-11); Oil and Gas in Western Kansas during 1941 (*Bull.* 42); Geophysical Investigations in the Tri-State Zinc and Lead Mining District (*Bull.* 44); *Late Paleozoic Pelecypods: Mytilacea* (Vol. 10, part 2); Map of Mineral Resources of Kansas.

**Topographic and Planimetric Mapping.**—*Projects:* Topographic mapping in Sedgwick, Cherokee, and Crawford Counties; planimetric mapping in Thomas County.

**Ground Water Resources.**—*Projects:* Geology and ground water resources of the Equus Beds area; Kiowa County; Finney and Gray Counties; Grant, Haskell, and Stevens Counties; Scott County; Jewell County; Hamilton and Kearny Counties; Seward County; Thomas County; preliminary study of ground water resources of the oil field areas in Ellis and Russell Counties; deep-well ground water supply of the Tri-State area. *Publications:* Geology and Ground Water Resources of Morton County (*Bull.* 40); Ground Water Supplies Available for National Defense Industries in South-Central Kansas (*Bull.* 41, pt. 1); Ground Water Supplies Available in Kansas for National Defense Industries (*Bull.* 41, pt. 2); Geology and Ground Water Resources of Ford County (*Bull.* 43); Geology and Ground Water Resources of Meade County (*Bull.* 45); Development of Deep-Well Ground Water Supply at the Jayhawk Ordnance Works (*Bull.* 41, pt. 12).



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### KENTUCKY

#### Basic and Economic Geology.—

*Projects:* Comprehensive study of the subsurface stratigraphy of Kentucky.

### LOUISIANA

#### Basic and Economic Geology.—

*Projects:* Structure map of Louisiana; Geology of DeSoto and Red River Parishes; Geology of Beauregard and Allen Parishes; Wilcox oil fields of north Louisiana; non-piercement domes in south Louisiana (a structural study). *Publications:* Louisiana Tertiary Bryozoa (*Bull.* 21); Geology of Vernon Parish, with map, (*Bull.* 22); Lower Eocene Faunal Units of Louisiana (*Bull.* 23); Special Minerals (*Bulletin No. 1*); Petroleum Production and Development in Louisiana in 1941 (publ. in *Trans. Amer. Inst. Min. and Met. Engrs.*, Vol. 146); Oil and Gas Map of Louisiana, scale 1:500,000.

*Ground Water Resources.—Projects:* Investigations in Acadia and Jefferson Davis Parishes; Florida Parish; and North Louisiana (cooperation with U.S.G.S.).

### MARYLAND

#### Basic and Economic Geology.—

*Publications:* Gazetteer; Reports on Chrome and Manganese.

#### Water Resources. — *Projects:*

Stream gaging and underground water investigations (Cooperation with U.S. G.S., and local contributions).

The Bureau of Mines division of the Department of Geology, Mines, and Water Resources, enforces the state's conservation and mine-safety laws and regulations, \$24,111 having been expended in 1942 for this purpose.

### MICHIGAN

#### Basic and Economic Geology.—

*Projects:* Continued work on surface formation; Pleistocene of Mackinac Island; stratigraphic studies of non-petroliferous Paleozoic formations; projects on gas control, bottom hole pressure, brine disposal; stratigraphic studies of oil and gas bearing formations; sample analysis and correlations; surveys of part of the Menom-

inee Iron Range, graphite deposits, Copper Region, dolomitic limestone for magnesium (analyses of samples); state-wide collection and analyses of brines from all formations, to study magnesium, bromine, and chloride concentrations; studies of strontium, survey of feldspar deposits. *Publications:* Geology of the Menominee Range, Norway to Waucedah (*Prog. Rept.* 8); Economic Geology of the Menominee Range (*Prog. Rept.* 9); Reconnaissance Study of the Adams Oil Field (A.I.M.M.E.); General Geology of Michigan, "The First Two Billion Years," Part II of *They Need Not Vanish* (Publ. of the Dept. of Conservation); Geology of the Michigan Basin, a chapter in Principles of Petroleum Geology, by Van Tuyl and Parker; Notes on Natural Gas Reserves of Michigan for Inter-State Oil Compact; Various reports to U. S. Government on rock and mineral resources; Geologic Map of a Part of the pre-Cambrian Formation of the Menominee Range; Geologic Maps and Cross Sections of: Quinnesec Area, Gree-Cyclops Area, Southwest Loretto Area; Map of Exposures of Dolomite.

*Water Resources.—Projects:* Potable water resources of southeastern Michigan; fluctuations of ground water level and its relation to stream flow and lake levels; seepage in relation to amount and direction of underflow affecting lake levels and streams; underground storage and effect on flow of streams, and relation to hydroelectric power development; municipal observation wells to determine continued adequacy of water supplies in cities; establishment of ground water and lake level recording gages in critical areas of the state; the Ontonagon project—relation of ground water and rainfall to power plant diversion of river, and methods to develop hydroelectric power without diverting all water, and thus destroy fish, scenery, etc.; possibility of increasing water supply with Flint area; adequacy of water supply for a war production plant in the Owosso area; adequacy source of water supply of the Saginaw area; restudy of Fort

## STATE GEOLOGICAL SURVEYS

Custer area to increase water supply; study for confidential report on water supply in five counties; survey of active and potential water supplies for camps, cantonments, concentration centers, housing, and other Government projects.

**Others.** — Publications: Biennial Report of the Geological Survey Division (*Biennial Rept.* Dept. Conser.).

### MINNESOTA

**Basic and Economic Geology.**—*Projects:* Geology of Cook County; *do.* the Duluth Area; slate metamorphism, correlation; Mississippi River gorge sediments; manganese in the Cayuna Range; correlation of iron ranges; investigations of fuller's earth; *do.* paper clays. *Publications:* Paleozoic and Related Rocks of Southeastern Minnesota (*Bull.* 29); Mineral Resources of Minnesota (*Bull.* 30).

**Topographic Mapping.**—*Projects:* Eskers of Minnesota.

**Ground Water Resources.**—*Projects:* Investigations in the south half of state; *do.*, northeast part of state.

### MISSISSIPPI

**Basic and Economic Geology.**—*Projects:* Mineral Resources Surveys of eight counties. *Publications:* Forrest County Mineral Resources (*Bull.* 44); Union County Mineral Resources (*Bull.* 45); Mississippi Agricultural Lime (*Bull.* 46); Adams County Mineral Resources (*Bull.* 47); Tallahatchie County Mineral Resources (*Bull.*); Scott County Mineral Resources (*Bull.*).

**Water Resources.**—*Projects:* Mississippi Alluvial plain; Centreville; Laurel; Grenada.

### MISSOURI

**Basic and Economic Geology.**—*Projects:* Investigations of manganese ores; investigations of clays. *Publications:* Clays; seven large-scale Geologic Maps of the Joplin Zinc-Lead Mining District.

**Topographic Mapping.**—*Projects:* Mapping 3,000 sq. miles (Cooperation with State Hwy. Dept., and U.S.G.S.). *Publication:* by U.S.G.S.

**Water Resources.** — *Projects:* Ground water investigations of various areas (Cooperation with WPA); service on municipal wells (Cooperation with Dept. of Health); 95 stream-gaging stations (cooperation with U.S.G.S.).

### MONTANA

**Basic and Economic Geology.**—*Projects:* Physiography of Gravelly Range; Paleozoic Limestones of Montana; State-wide Mineral resources survey (cooperation with WPA); directory of oil and mining properties (Cooperation with WPA); geology and ore deposits of Jardine District; Platiniferous gold-copper deposits of Revais Creek District; geology and ore deposits of Highland District; study of Montana clays. *Publication:* Bibliography and the Geology and Mineral Resources of Montana (*Memoir* 21).

**Water Resources.**—*Projects:* General study of ground water resources.

**Others.**—*Projects:* General ore dressing and metallurgical studies for beneficiation of Montana ores.

### NEBRASKA

**Basic and Economic Geology.**—*Projects:* Paleontologic studies of *Archimedes*, *Ctenostomes*, and *Thamniscus*; geologic column of Nebraska; subsurface stratigraphy; study of oil fields of southeast Nebraska. *Publications:* Pre-Pennsylvanian Stratigraphy of Nebraska; Geologic Map of Nebraska.

**Water Resources.** — *Projects:* Ground water investigations of: Western portion of Republican valley region; Lodgepole valley region; lower Platte valley region; special investigations on ground water supplies for defense plant. *Publications:* Ground-water Resources of Republican Valley Region; Groundwater Resources of Richardson County.

**Others.**—*Projects:* Tree studies in relation to soil and climate conditions; study of mosses, lichens, and algae; grass studies; agricultural land use investigation (Biological Survey); soil survey; erosion control work. *Publications:* Native and Planted

## VIII. PUBLIC RESOURCES AND UTILITIES

Woodlands in Nebraska; Amphibians and Reptiles of Nebraska.

### NEVADA

#### Basic and Economic Geology.—

*Project:* Examination of individual mining properties.

### NEW JERSEY

#### Basic and Economic Geology.—

*Projects:* Magnetic survey of Canfield property, near Dover (Rutgers Univ.); magnetic and gravitational survey of an iron-bearing area near West Portal, Hunterdon County (George P. Wollard). *Publications:* The Peats of New Jersey and Their Utilization (*Bull.* 55, pt. A); The Mineral Wool Industry of New Jersey (*Bull.* 56).

#### Topographic and Planimetric

*Mapping.*—*Projects:* Revision of the Pluchmein sheet; *do.*, Somerville sheet; *do.*, Atlas sheets 21, 23, 27, and 31. *Publications:* Bench Marks in Cumberland County (*Bull.* 57); Topographic Map of New York Bay Sheet; *do.*, Atlas Sheet 26; *do.*, Atlas Sheet 32; County and Municipality Map of New Jersey (Planimetric).

*Water Resources.*—*Projects:* Geology and ground water resources of Middlesex County (Cooperation with State Water Policy Com., and U.S. G.S.); continuation of investigations of ground water resources of New Jersey.

### NEW MEXICO

The office of the State Geologist has charge of the administration of the state's Oil and Gas Conservation Act. The Bureau of Mines and Mineral Resources is a department of the New Mexico School of Mines. It makes investigations of mineral resources, and publishes reports.

#### Basic and Economic Geology.—

*Projects:* Oil and gas resources of New Mexico (revision of *Sch. of Mines Bull.* 9); clays of New Mexico. *Publications:* Pennsylvanian System of New Mexico (*Sch. of Mines Bull.* 17).

### NEW YORK

#### Basic and Economic Geology.—

*Projects:* Geology of the Cattaraugus

quadrangle; *do.*, Schunne-munk quadrangle (revision, map); *do.*, Utica quadrangle; glacial geology of the Syracuse region (maps); geology of the Saranac Lake quadrangle (map); the Clinton of Western and Central New York; Cephalopods of Tully Limestones of New York; Hamilton Cephalopods of New York; geology of the Oriskany quadrangle (map); guide to the Lake George region (map); geology of the Catskill and Kaaterskill quadrangle (maps, parts 1 & 2); *do.*, Cocksackie quadrangle (map); *do.*, Lake Sanford titaniferous iron ores. *Publications:* Geology of the Willsboro Quadrangle (*Mus. Bull.* 325); Geology of the Wellsville Quadrangle (*Mus. Bull.* 326); Paleontology and Geology (*Mus. Bull.* 327).

### NORTH CAROLINA

#### Basic and Economic Geology.—

*Projects:* Investigations of chromite; manganese; copper; corundum; and vermiculite (cooperation with U.S. G.S. and T.V.A.). *Publication:* Chromite Deposits of North Carolina (*Bull.* 42).

*Water Resources.*—*Projects:* Two projects investigating ground water resources (cooperation with U.S. G.S.).

### NORTH DAKOTA

#### Basic and Economic Geology.—

*Projects:* Levels of Devils Lake and ancient shorelines; manganese in the Turtle Mountains. *Publication:* Geology of the Southern Part of Morton County (*Bull.* 13).

*Water Resources.*—*Projects:* Geology and ground water resources of Pembina County; *do.*, area near Camp Grafton; observation well program (continuing).

*Others.*—Twenty-Second Biennial report of the State Geological Survey of North Dakota.

### OHIO

#### Basic and Economic Geology.—

*Projects:* Shore erosion along south shore of Lake Erie; Sharon conglomerate in Mahoning County; collection of logs and well cuttings, microscopic examination of cuttings (continuation); subsurface structure maps;



## STATE GEOLOGICAL SURVEYS

mapping coal mines in Mahoning County; preparation of two short papers on coal fields of eastern Ohio; sampling eastern Ohio limestones, for chemical analysis (continuation). *Publication:* Dolomites and Limestones of Western Ohio (*Bull.* 42).

**Water Resources.**—*Projects:* Investigations for new sources of ground water supplies in Mahoning County; chemical analyses on quality of water from different parts of Ohio; State Geologist serves as chairman of the State Water Supply Board; preparation of maps showing glacial drift, bed-rock surface, etc.; preparation of report on water supplies of Ohio.

### OKLAHOMA

**Basic and Economic Geology.**—*Projects:* Geology and mineral resources of Tulsa County; stratigraphic and areal studies in east-central Oklahoma; mapping outcrops of low-volatile coals in eastern Oklahoma (cooperation with U.S.G.S.); detailed structure-mapping of manganese-bearing area near Bromide, Coal County; additional studies of iron ores in Arbuckle Mountains; checking old zinc mining area in Arbuckle Mountains; mapping and sampling dolomite deposits in Arbuckle and Wichita Mountains; clays from weathered gabbro of Wichita Mountains; barium and strontium in western Oklahoma. *Publications:* Mineral Production of Oklahoma 1885-1940 (*Min. Rept.* 13); A Bibliography of Oklahoma Oil and Gas Pools (*Bull.* 63).

**Ground Water Resources.**—*Projects:* Investigations of ground water in the alluvium of North Canadian River, Canadian and Oklahoma Counties (cooperation with U.S.G.S.); *do.*, so-called "Garber" sandstone, Cleveland and Oklahoma Counties (cooperation with U.S.G.S.); service on numerous defense projects; continuation of observation well program in Panhandle counties, and north Canadian valley (cooperation with U.S.G.S.); Oklahoma Water supplies (cooperation with Okla. A. and M. College). *Publication:* Geology of Oklahoma Ground Water Supplies (*Min. Rept.* 11).

**Others.**—*Projects:* Coking tests on Oklahoma coals, chemical analyses of Oklahoma coals (cooperation with U.S.B.M.); laboratory work on extraction of magnesium from oil field brines; beneficiation of low-grade manganese and iron ores, and low-grade phosphate rock; collection of specimens of rocks, minerals, and fossils, for high schools; Oklahoma Mineral Industries Conference—an organization of mineral producers and processors—annual meeting sponsored by the Geological Survey. *Publications:* Carbonizing Properties of Henryetta-bed Coal, preliminary report (*Min. Rept.* 12); The Possibility of Magnesite from Oklahoma Oil Field Brines (*Min. Rept.* 14); Carbonizing Properties of McAlester-bed Coal, preliminary report (*Min. Rept.* 15); Catalog of 100 Minerals, Rocks, and Fossils, from Oklahoma (illustrated), to accompany collection given to high schools of state; Mineral Resources and Mineral Industries—An Outline for Future Development of Oklahoma (Director's Biennial Report). *The Hopper*, a monthly mimeographed publication for the Oklahoma Mineral Industries Conference.

### OREGON

**Basic and Economic Geology.**—*Projects:* Geologic mapping five quadrangles in the Willamette Valley; *do.*, two quadrangles in Central Oregon; *do.*, two quadrangles in eastern Oregon; *do.*, one quadrangle, northwestern Oregon; study of black sands in coastal southwest Oregon; paragenesis of southwest Oregon gold ores; vertebrate fossils from Unify Basin; Eocene flora of the Bear Creek area; Biennial Report of the Department. *Publications:* Geology of Some Manganese Deposits in Southwest Oregon; Geology of Tyrre; Manganese Mine, Jackson County; a Vanadium Prospect in Southwest Oregon; Investigation of Reported Tin at Juniper Ridge, Oregon; *Metal Mines Handbook* of Josephine County; *Metal Mines Handbook* of Jackson County; *Metal Mines Handbook* of Northwest Oregon; Manganese in Oregon; geology of the Portland Area; Geophysical Investigation of Some Central



## VIII. PUBLIC RESOURCES AND UTILITIES

Oregon Quicksilver Deposits; Strategic and Critical Minerals—A Guide for Oregon Prospectors; Mining Laws of Oregon (revised); Geologic Map of the Portland Area.

### PENNSYLVANIA

**Basic and Economic Geology.**—*Projects:* Martinsburg stratigraphy; the Silurian system in Pennsylvania; mapping Devonian formations; guidebook to the Philadelphia region; geology and mineral resources of the Smicksville quadrangle; southeastern Clearfield County; geology and mineral resources of Warren County; *do.*, Venango County; mineral resources of Bucks County; sand and gravel resources of the Delaware valley; deep oil and gas sands; oil and gas of the Kinzua quadrangle; *do.*, Sheffield and Oil City quadrangles; *do.*, Warren County; general study of oil and gas in southwestern Pennsylvania; manganese ores; investigations of high-alumina clays and other strategic minerals. *Publications:* Manganese Minerals of Pennsylvania (*Prog. Rept.* 128); Electrical Well Logging (*Prog. Rept.* 129).

**Topographic and Planimetric Mapping.**—*Projects:* Mapping the following quadrangles: Grover, Montrose, LeRaysville, Caledonia, Ridgway (cooperation with U.S.G.S.). *Publications:* Delaware Water Gap, East Waterford; Milheim, Sayre, Hallton quadrangle sheets.

**Water Resources.**—*Projects:* Well gaging (cooperation with U.S.G.S.).

### SOUTH CAROLINA

**Basic and Economic Geology.**—*Projects:* South Carolina coastal plain; dam and reservoir sites.

### SOUTH DAKOTA

**Basic and Economic Geology.**—*Projects:* Structure of Lyman County; magnetometer survey of Sames valley; pegmatite minerals of the Black Hills; manganese deposits of the Missouri valley. *Publications:* Magnetometer Surveys during 1941 (*Rept. Inv.* 42); Economic Possibilities of the Pierre Shale (*Rept. Inv.* 43); Preliminary Report on Some

Pegmatites of the Custer District (*Rept. Inv.* 44).

**Ground Water Resources.**—*Projects:* Observation wells and lake measurements, for water levels (cooperation with U.S.G.S.). *Publication:* A Hydraulic Survey of the White River Valley (*Rept. Inv.* 41).

### TEXAS

**Basic and Economic Geology.**—*Projects:* Geology and minerals of the Llano region; Mississippian rocks of the Llano region; geology of Houston County; investigation of Coastal Plain geology; minerals of Trans-Pecos Texas; geology of the Texas High Plains; study of vertebrate fossil collection. *Publications:* Catalog of North American Early Tertiary Fossils of the Gulf and Atlantic Coastal Plain (pub. by Univ. of Texas); Series of *Bulletins on Mineral Resources of Texas*—Building Stones of Texas; Petroleum Resources of Texas.

### VIRGINIA

**Basic and Economic Geology.**—*Projects:* Geology and mineral resources of Gossan Lead district; geology and mineral resources of Frederick and Clarke counties; geology and mineral resources of Giles County; geology of the Hot Springs district; geology of Shenandoah National Park and environs; geology and mineral resources of Burkes Garden quadrangle; geology and mineral resources of Abingdon quadrangle; geology and mineral resources of Buena Vista quadrangle; geology and mineral resources of Vesuvius quadrangle; geology and mineral resources of Stony Man quadrangle; geology and mineral resources of Natural Bridge district; outline of geology and mineral resources of Frederick County; outline of geology and mineral resources of Smyth County; outline of geology and mineral resources of Augusta County; geology and mineral resources of the Mount Rogers district; Virginia bauxite; limestone and dolomites of Virginia; mica deposits; Piedmont war minerals; talc and soapstone deposits; Piedmont marble

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belt. *Publications*: Geology of the Appalachian Valley in Virginia (*Bull.* 52, pts. I & II); The Early Grove Gas Field, Scott and Washington Counties (*Bull.* 56); Eocene of Virginia (*Bull.* 57); Publications on the Geology and Mineral Resources of Virginia (*Circ.* 2); Virginia's Industrial Limestone (Reprint 3); Virginia's War Minerals (Reprint 4); Manganese-bearing Veins in Southwestern Virginia (Reprint 5).

**Topographic and Planimetric Mapping.**—*Projects*: Mapping the following quadrangles — Berryville, Chester, Clarksville, Craigsville, Front Royal, Hightown, Lovington, McDowell, Mint Spring, Mt. Jackson, Orkney Springs, Parnassus, Pounding Mill, Weyers Cave, Hopewell, Scottsville, and Williamsville (Cooperation with U.S.G.S.). *Publications*: Quadrangle maps—Vesuvius (15-minute sheet); Westhampton (7½-minute sheet); Capon Bridge (15-minute sheet); Winchester (15-minute sheet), (cooperation with U.S.G.S.).

**Water Resources.**—*Projects*: Geology and mineral resources of the southern Virginia Coastal Plain; industrial ground water at Franklin; chloride studies. *Publication*: Ground-water Resources of Southeastern Virginia Coastal Plain (*Circ.* 1).

**Others.**—*Projects*: Common rocks and minerals of Virginia; outline of the geology of Virginia; mineral industries in Virginia; guidebook of the Lee Highway; geology of Virginia State Parks.

### WASHINGTON

**Basic and Economic Geology.**—*Projects*: Investigations of chrome, tungsten, iron, nickel, magnesite and dolomite. *Publications*: Inventory of Mineral Properties in Snohomish County (*Rept. Inv.* 6); Character and Tonnage of the Turk Magnesite Deposit (*Rept. Inv.* 7); Iron Deposits of Myers Creek District, Okanogan County (*Rept. Inv.* 8); The Blewett Iron Deposits (*Rept. Inv.* 9); Tungsten Deposits of Washington (*Bull.* 34); Chromite Resources of Washington (*Bull.* 36).

**Topographic and Planimetric Mapping.**—*Projects*: Work continued on two quadrangles.

### WEST VIRGINIA

**Basic and Economic Geology.**—*Projects*: Geochemistry of natural gas; geochemistry of petroleum; secondary recovery of oil in West Virginia; correlation of oil and gas sand samples; oil and gas well records; sponge iron in West Virginia; clays of West Virginia. *Publications*: Summary of Recent Prospecting for Manganese and Iron Ores in southeastern West Virginia (*Bull.* 6); *The Silurian System of West Virginia* (Vol. XIV).

**Water Resources.**—*Projects*: Ground-water resources of West Virginia; stream gaging in West Virginia (both in cooperation with U.S.G.S.). *Publications*: Surface Water Supply of West Virginia (cooperation with U.S.G.S.).

**Others.**—*Publications*: Base Map of West Virginia (scale—1 inch equals 4 miles); Oil and Gas Fields Map of West Virginia (scale—same as base map).

### WISCONSIN

**Basic and Economic Geology.**—*Project*: Road material survey.

**Topographic and Planimetric Mapping.**—*Projects*: Aerial mapping under cooperative arrangement between State Highway Department and U.S.G.S. State Geologist acts as adviser. *Publications*: Topographic Map of Arkansaw Quadrangle; Planimetric Maps of Cassian, Crandon, Dunbar, Elcho, Florence, Iron Mountain, Laona, Long Lake, McCord, Monico, Parrish.

### WYOMING

**Basic and Economic Geology.**—*Projects*: Geology of Muddy Creek area, Lincoln County; general survey of metallic and non-metallic mineral deposits of Wyoming; dolomite deposits; vermiculite deposits. *Publication*: Oil and Gas Fields Map of Wyoming.

## VIII. PUBLIC RESOURCES AND UTILITIES

### RECLAMATION AND IRRIGATION

By JOHN C. PAGE

COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

#### BUREAU OF RECLAMATION IN THE WAR EFFORT

A vital role in the war work of the West—strategically important sector of the home front during 1942—was played by the Bureau of Reclamation, U. S. Department of the Interior, created by Act of Congress, June 17, 1902, for the construction and operation of irrigation works and multiple-purpose projects with power facilities in the 17 arid and semi-arid western states.

The Bureau was a chief supplier of the foodstuffs, electric power, and water necessary to shift into high gear the western half of the nation's war machine. Four decades of sound engineering construction enabled great multi-purpose reclamation projects to produce food, power, and water for hundreds of cities, thousands of war factories and plants, and millions of war workers in the West. The three essentials of modern existence—food, power, and water—were provided in increasingly larger and more important quantities.

Outstanding during the first year of war, as it was also during the last year of pre-war defense preparations, was the Bureau of Reclamation's contribution of hydroelectric power—an important by-product and the working partner of irrigation—generated by power plants at multi-purpose dams built by the Bureau to create reservoirs of water supply for irrigation and other benefits. In the Pacific Northwest and Southwest giant reclamation hydro plants were the bulwark behind industries working at war tempo or mushrooming into production of war material. Power poured out of these plants and others for mining and manufacturing; for copper, steel, aluminum, magnesium; for bombs, planes and ships.

The installed power capacity on reclamation projects increased more

than 50 per cent from July 1, 1941, to Dec. 31, 1942, to more than 1,500,000 kilowatts. By May 1944 another 50 per cent increase is scheduled.

#### POWER INCREASE

A tremendous power increase was achieved during 1942 due chiefly to the installation of two huge hydro generators—largest in the world—in the Grand Coulee dam power plant, Wash. In the Boulder dam power plant, Ariz.-Nev., also, another big generator was installed and placed in operation—to make by far the most powerful array of dynamos ever assembled and synchronized into action. Two generators were installed at the Parker dam plant, a new hydroelectric development—the 29th to be built by the Bureau of Reclamation since it was established—on the Colorado River in Ariz.-Calif. Being hurried to completion as the year closed was another generator (the 12th) at Boulder, a third at Parker, and a large generator (originally intended for installation at Shasta dam on the Central Valley project in California but transferred so as to start operation a year sooner) at Grand Coulee dam.

Simultaneously, reservoirs on reclamation projects furnished water to cities and their industries, to military establishments, their training centers, their airfields. The 81 reservoirs on reclamation projects in 1942 had an active water storage of 47,500,000 acre-feet—15,000,000,000,000 gallons—available for power generation, irrigation, and domestic and industrial needs. A 6,000,000 acre-foot increase in storage over 1941 illustrates the foresightedness of the Bureau in undertaking construction long in advance of an emergency.

Of 73 projects in operation, under construction or authorized, 45 were producing power and supplying water for irrigation, municipalities, and war

## RECLAMATION AND IRRIGATION

industries. Twenty others were under construction. Nine were authorized but work was deferred because of the war. Of the 45 projects in operation several had important features still under construction.

### COMPLETED STORAGE DAMS AND PRODUCTION RECORDS

The Bureau of Reclamation brought to completion three of the 15 storage dams under construction on irrigation projects in 1942. The completed storage dams—Grand Coulee in Washington, Friant in California, and Marshall Ford in Texas—rank among the largest concrete dams in the world. They are first, fourth, and fifth in size respectively.

The storage capacity of reclamation reservoirs at the end of the fiscal year was 61,610,283 acre-feet, an increase of 13,845,680 acre-feet—29 per cent—over the July 1, 1941 capacity.

Stored water irrigated 3,000,000 acres of productive land. Food, forage, and fiber were produced on the strategically located 45 irrigation projects in operation in the West. Farmers were urged to plant and to harvest, to raise cows, beef, and poultry. Irrigation district officials collaborated with the Bureau in an all-out effort to get the most from high-production reclamation farms.

The gross value of food, forage, and fiber produced in 1941 on land served with reclamation water was \$159,885,998, a 35 per cent increase over the \$117,788,677 of 1940. These values do not include the livestock fattened on reclamation projects, nor dairy products such as milk, butter, and cheese, and poultry and eggs, which would increase totals perhaps more than 25 per cent; nor do they include unreported returns from areas irrigated by the All-American canal and five other supplemental water projects.

The cultivated area on regular and storage projects rose from 2,138,927 acres in 1940 to 2,178,288 acres in 1941, with crop values of \$80,098,196 and \$110,399,806, respectively. The cultivated Warren Act lands supplied with supplemental water increased from 1,177,103 to 1,202,172 acres with respective values of \$37,690,481 and

\$49,486,191. In acreage, hay and forage for livestock were the most important. Other products included vegetables and truck, fruits and nuts, small grains, seed, long-staple cotton, and sugar beets.

In 1941 reclamation projects in 12 states produced 1,450,321 tons of sugar beets, equivalent to a year's supply of sugar for an army of 5,000,000 soldiers. The 1941 area of 101,219 acres in sugar beets was increased during the planting season of 1942, but labor difficulties and scarcity of factory facilities may restrict the year's production to a 25 per cent increase. If labor is available and processing plants are established, production in 1943 could double the 1941 output.

The irrigable acreage for which the Bureau was prepared to supply water in 1942 was 4,915,716 acres. Regional production of food, forage, and fiber by the reclamation projects in the West supplied urgent needs. This production reduced the burden on transcontinental railroads and highways for the movement of men and equipment. It meant speedy delivery of supplies and the saving of freight cars, of steel for rails and equipment, of fuel for engines, and of gas, oil, and rubber for trucks.

### WATER SUPPLY EXPANSION

Water, prime essential in war, was provided during the year for municipal areas of 2,500,000 population. Extensive industrial and military concentrations were located in the areas.

The Boulder dam system on the Colorado River in the Southwest provided water for Los Angeles and 12 other cities of the metropolitan area of southern California. It supplied both water and power to the huge new magnesium plant in Nevada near Boulder dam.

The Rio Grande project in New Mexico and Texas supplied water to the city of El Paso to make possible more extensive military operations. The Contra Costa canal on the Central Valley project provided water for industries in Pittsburg, Calif.

Until halted by a War Production Board order in November work was rushed on the Provo River project in



## VIII. PUBLIC RESOURCES AND UTILITIES

Utah to provide water for a large steel plant and for Salt Lake City and Provo. Important military and industrial concentrations in this Utah area, with increased population, are draining the limited water supplies for domestic and agricultural purposes.

Other reclamation projects also were under construction during the year to provide municipal water supplies. The Altus project in Oklahoma and the Rapid Valley project in South Dakota will give Altus and Rapid City new reserves. The increase in Army personnel and population made the additional water supply essential.

### PROJECTS IN THREE JAPANESE CENTERS

When the Army ordered the evacuation of persons of Japanese ancestry from critical areas on the Pacific Coast, three reclamation projects with undeveloped public land were selected by the War Relocation Authority as sites for relocation centers: The Tule Lake division of the Klamath project in California; the Gooding division of the Minidoka project in Idaho; and the Heart Mountain division of the Shoshone project in Wyoming.

Housing for 16,000 evacuees was completed on the Klamath project. Plans were formed to subjugate and bring into production 21,000 acres. Housing construction for 10,000 evacuees on each of the other two centers was also completed. The Minidoka project is to provide 17,000 acres of land for irrigation and the Shoshone project 27,800 acres. Products from these lands are expected to provide subsistence for the evacuees.

The Bureau in 1942 took measures to aid in the Federal program for directing excess purchasing power of the water users into non-inflationary channels. It urged retirement of outstanding debts, advance payment of government obligations, and the creation of a reserve fund to take care of postwar emergencies. Projects were given information on the government's policy with suggestions as to methods of cooperation.

Soil and moisture conservation operations were continued on lands

under the Bureau's jurisdiction. Work included hydrographic measurements and studies for determination of seepage losses in canals and laterals; studies of materials and demonstrations of their application as sealing agents to reduce seepage; prevention of water erosion and depletion of soil fertility; and construction of controlling structures and planting of vegetation on non-cultivated land at locations suffering from extreme wind erosion.

At the close of the fiscal year reclamation projects provided power and water to 4,500,000 persons in 15 western states. On irrigation projects served by reclamation systems were 1,088,504 persons, on 86,181 farms and in the 291 tributary cities and towns. The other 3,500,000 persons received power and domestic water.

In 40 years these projects have created taxable property values of \$1,-000,000,000 and produced nearly \$3,-000,000,000 in crop values—nearly four times reclamation construction expenditures through June 30, 1942.

### LONG-RANGE CONSTRUCTION

In the 40 years of its existence as a Federal agency the Bureau of Reclamation has placed in operation 45 irrigation projects. In the construction of these wealth-producing projects the Bureau has built 166 dams; 29 power plants; 5,678 miles of high-voltage transmission lines; 372 pumping plants; 16,277 miles of main canals and lateral branches; 5,010 miles of ditches and drains; and 208,931 other canal structures. It has built 14,255 bridges, 23,060 culverts, and 6,475 flumes, and bored 380 tunnels of a combined length of 105 miles. It has laid 2,264 miles of pipe and built 3,994 miles of road.

The Bureau has excavated 603,115,-119 cubic yards of earth and rock and has used 35,195,538 barrels of cement in building irrigation structures containing 30,834,046 cubic yards of concrete, enough to pave a standard two-lane highway around the world at the equator.

The crucible of reclamation engineering work is the expertly manned

## PUBLIC LANDS

laboratory of the Bureau at Denver, Col. Designs and materials for structures are submitted to intensive study and actual test by qualified engineers, some of international reputation. This applied science not only has insured sound, lasting low-cost structural work but has saved the Government millions of dollars. Nearly \$6,000,000 was saved in the cost of the Grand Coulee dam alone by laboratory analysis of available cements and refinements in structural design as a result of exhaustive laboratory research.

### CURRENT DAM CONSTRUCTION

The following dams were completed during the calendar year: Grand Coulee dam (Columbia Basin project, Wash.), 9,926,005 cubic yards in volume, a straight-gravity concrete structure creating a reservoir with an estimated storage capacity of 9,700,000 acre-feet; Friant dam (to crest height, Central Valley project, Calif.), 2,045,860 cubic yards in volume, a straight-gravity concrete structure creating a reservoir of 520,000 acre-foot capacity; and Marshall Ford dam (Colorado River project, Texas), 1,870,000 cubic yards in volume, a straight-gravity concrete structure with a reservoir of 3,120,000 acre-foot capacity.

The 12 other reclamation dams under construction in 1942 were: Shasta and Keswick dams, Central Valley project, Calif.; Davis dam, Ariz.-Nev.; Anderson Ranch dam, Boise project, Idaho; Green Mountain dam, Colorado-Big Thompson project, Col.; Altus dam, Altus project, Okla.; Wickiup dam, Deschutes project, Ore.; Big Sandy dam, Eden project, Wyo.; Jackson Gulch dam, Mancos project, Col.; Newton dam,

Newton project, Utah; Deerfield dam, Rapid Valley project, S. D.; and Box Butte dam, Mirage Flats project, Neb.

Operation of the All-American canal—the world's largest irrigation canal, 242 feet wide at water surface in maximum width, 80 miles long extending from the Colorado River to the west end of the Imperial Valley, deep enough to float an ocean-going vessel—was extended throughout the Imperial Valley during the fiscal year.

### RESERVOIR OF PUBLIC WORKS

Also set in motion during 1942 was a large program for cushioning the stock of postwar dislocation. Under investigation were 209 river basins and potential irrigation or multiple-purpose projects in 17 western states. The investigations will produce an inventory of water resources and point the way to their economical and effective use in a region where water is the most precious natural resource and the basis for its economic expansion.

From studies that have been completed or are well advanced, the Bureau was selecting for a reservoir of public works, in accordance with the President's direction, a minimum of 50 feasible projects. This irrigation and multiple-purpose construction can be launched promptly at the conclusion of the war. Demobilized soldiers, sailors, and marines will require employment in useful occupations. Industrial workers released from war factories will want work close to their original homes. This shelf of projects, and the remaining construction on great undertakings like the Columbia Basin Reclamation project in the State of Washington, will provide that work.

## PUBLIC LANDS

BY FRED W. JOHNSON

COMMISSIONER, GENERAL LAND OFFICE

### GENERAL LAND OFFICE

The General Land Office, United States Department of the Interior, was created in 1812 to take over the

work of surveying the public lands and transferring them to private ownership. Since 1812, however, the problems of public lands partly or

## VIII. PUBLIC RESOURCES AND UTILITIES

wholly unsuited to agriculture or better suited to other uses have become increasingly important, and the General Land Office, while continuing the surveying and transfer of land as its basic function, has gradually become an important administrative agency. It now administers the Mineral Leasing Act; it grants rights of way for such public utilities as power and communication lines and oil and gas pipe lines; it manages the Oregon and California revested and reconveyed grant lands; it administers the five-acre tract act; it issues grazing leases on lands under its jurisdiction in the United States and provides for improvement and conservation of the range; it makes all leases of public lands in Alaska for grazing, fur farming, etc.; and it has the responsibility for protecting timber and other resources on the public lands in Alaska against fire. Approximately 38,250,000 acres of vacant, unreserved, and unappropriated public lands in the United States and 323,000,000 acres in Alaska are under the jurisdiction of the General Land Office.

### WAR REQUIREMENTS AND OBLIGATIONS

The General Land Office has been given increased responsibilities due to the need for new supplies of strategic minerals, power, and grazing facilities, and the military and naval requirements for large areas of public lands. Withdrawals from the public domain in the United States and Alaska aggregating more than seven million acres were made during the fiscal year ended June 30, 1942, to permit construction and operation of facilities required by the Army, the Navy, and the Civil Aeronautics Administration. These withdrawals include lands for aerial bombing ranges, anti-aircraft fields, combat training areas, artillery practice grounds, air navigation sites, flying schools, ammunition storage, and ordnance depots.

Special services rendered to war agencies and war industries during the past fiscal year included the surveying of military projects and the

appraisal of properties to be purchased by the Navy Department. Considerable legal work was done in clearing out invalid claims encumbering areas segregated for war purposes. At the same time, action was taken to make possible continued productive civilian uses of lands and to conserve their civilian values without detracting from their usefulness for war purposes.

### REVENUE RECEIPTS AND EXPENDITURES

Notwithstanding the increased burdens incident to the war, which were handled without increased appropriation, the General Land Office maintained its position as one of the few agencies of the Federal Government whose operations resulted in revenues exceeding expenditures. Total cash receipts from all sources during the year amounted to \$9,014,172.87, an increase of \$1,281,830.94 over the preceding year. The receipts were almost four and one-half times the amount of the expenditures (\$2,047,504.64), and this was the sixth consecutive year in which the receipts were in excess of \$7,000,000.

### DEVELOPMENT OF MINERAL DEPOSITS

The leasing and other activities of the General Land Office were greatly increased in so far as they would help to accelerate the production of minerals essential to the prosecution of the war. Every effort has been made to provide mineral lands and to facilitate their operation to the fullest extent.

In opening reserved mineral deposits to exploitation, the General Land Office has made available large quantities of minerals essential to the war effort. The production of oil and gas from 690,919 acres of leased public land is of vital importance. The potash reserves in New Mexico and California, operating under leases, now provide large supplies of potassium at less than one-sixth of the price paid for potassium during the First World War. Rents and royalties paid to the Government on

# PUBLIC LANDS

## ORIGINAL ENTRIES ALLOWED AND SELECTIONS

(Fiscal Year 1942<sup>a</sup>)

Type of Entry or Selection	Public Lands		Ceded Indian Lands		Total	
	No.	Acres	No.	Acres	No.	Acres
<b>Homestead Entries:</b>						
Stockraising.....	14	8,451			14	8,451
Enlarged.....	7	1,503	b	38	7	1,541
Reclamation.....	59	6,805	2	229	61	7,034
Forest.....	5	296			5	296
Sec. 2289, R. S. <i>et al.</i> .....	198	20,073	b	40	198	20,113
<b>Total Homestead Entries.....</b>	<b>283</b>	<b>37,128</b>	<b>2</b>	<b>307</b>	<b>285</b>	<b>37,435</b>
<b>Other Entries and Selections:</b>						
Desert Land Entries.....	18	1,738			18	1,738
State Selections.....	50	85,311			50	85,311
Timber and Stone Application.....	1	39			1	39
Mineral Applications and Adverse Claims.....	121	10,165			121	10,165
Townlots <sup>c</sup> .....	97	<sup>d</sup>			97	
Lieu Selections.....	2	115			2	115
Scrip Selection.....	1	40			1	40
<b>Total Other Entries and Selections.....</b>	<b>290</b>	<b>97,408</b>			<b>290</b>	<b>97,408</b>
<b>Grand Total.....</b>	<b>573</b>	<b>134,536</b>	<b>2</b>	<b>307</b>	<b>575</b>	<b>134,843</b>

<sup>a</sup> An original entry or selection is one made in pursuance of an act of the Congress which prescribes the terms and conditions under which patent may be issued or other evidence of title granted. An original entry becomes a final entry upon compliance by the entryman with further requirements of the law, such as residence or additional payment, and upon the issuance of a final certificate. A state selection becomes final upon certification by the Commissioner of the General Land Office.

<sup>b</sup> One entry amended.

<sup>c</sup> Townlots upon which only part payment was made.

<sup>d</sup> Area not tabulated.

mineral leases and permits amounted to \$7,393,046 for the fiscal year 1942.

### GRAZING LANDS

The production of beef, mutton, lamb, wool, mohair, and leather on the western ranges constitutes a very important contribution towards winning the war. The General Land Office intensified its efforts to provide necessary grazing land and it now has outstanding 8,821 leases covering 9,871,843 acres. Investigations have been made of the possibility of using yucca growing on the public domain as a substitute for fibers that can no longer be obtained from the usual sources.

### TIMBER LANDS

Management of the great forest area in Oregon under the supervision of the Oregon and California Revested Lands Administration of the General Land Office was adapted to

the needs of a war economy without sacrificing the goal of sustained yield. The volume of timber cut from the "O and C" lands was 456,131,000 board feet, which represents an increase of 19 per cent over the cut of the preceding year. The "O and C" Administration employed additional personnel, partly for the purpose of making and supervising timber sales which call for the cutting of special grades of timber required in the war program. The cutting of these special grades would cause much unnecessary waste, unless carried out on a selective basis and properly supervised.

The General Land Office increased its fire prevention and suppression activities in the "O and C" forests in Oregon and the forest areas in Alaska because of the additional hazards incident to the war. Fires in the Alaska and Oregon forests interfere materially with the operations of the military forces. Dense clouds of



**VIII. PUBLIC RESOURCES AND UTILITIES**  
**ENTRIES FOR WHICH FINAL CERTIFICATES WERE ISSUED**  
(Fiscal Year 1942<sup>a</sup>)

Type of Entry	Public Lands		Ceded Indian Lands		Total	
	No.	Acres	No.	Acres	No.	Acres
<b>Homestead Entries:</b>						
Stockraising.....	286	138,989	17	6,460	303	145,449
Enlarged.....	29	7,541	4	547	33	8,088
Reclamation.....	214	21,455	45	5,668	259	27,123
Forest.....	6	844			6	844
Commuted.....	5	500	13	824	18	1,324
Sec. 2289, R. S., <i>et al.</i> .....	187	18,678	15	1,161	202	19,839
<b>Total Homestead Entries</b>	<b>727</b>	<b>188,007</b>	<b>94</b>	<b>14,660</b>	<b>821</b>	<b>202,667</b>
<b>Other Entries:</b>						
Desert Land Entries.....	52	7,192			52	7,192
Public Auction Sales <sup>b</sup> .....	230	20,256	3	284	233	20,540
Timber and Stone Entry.....	1	39			1	39
Mineral Entries.....	107	10,860			107	10,860
Miscellaneous Entries.....	157	5,989	14 <sup>c</sup>	4,404	171	10,393
<b>Total Other Entries.....</b>	<b>547</b>	<b>44,336</b>	<b>17</b>	<b>4,688</b>	<b>564</b>	<b>49,024</b>
<b>Grand Total.....</b>	<b>1,274</b>	<b>232,343</b>	<b>111</b>	<b>19,348</b>	<b>1,385</b>	<b>251,691</b>

<sup>a</sup> An entry for which a final certificate has issued is called a final entry. The final certificate shows that the law has been complied with and that in the absence of irregularity, the entryman or claimant is entitled to a patent. If the requirements of the law have been met, the equitable title to the land passes to the claimant upon the issuance of the final certificate.

<sup>b</sup> Isolated Tracts.

<sup>c</sup> One entry (4,080 acres) on Indian tribal lands.

smoke obscure visibility over wide areas, interfere with aerial reconnaissance, and necessitate landing airplanes by instrument. The Alaskan Fire Control Service and the "O and C" Administration are working in close cooperation with the armed forces to form a vital link in the defense areas in which they operate.

#### CONTROL OF COAL FIRES

A Civilian Conservation Corps camp, under the supervision of the General Land Office, continued its work of suppressing the outcrop coal fires which were threatening with destruction important coal resources in the vicinity of Little Thunder Basin, Wyoming. This work, successfully prosecuted over a period of nine years, was discontinued at the end of May.

#### LAND DISPOSAL

In addition to its war and management work, the General Land

#### LEASES, OTHER THAN MINERAL LEASES, ISSUED

(In Force June 30, 1942)

Type of Lease	Number	Acreage
Aviation Leases.....	40	25,915.90
Bathing Beach Lease ..	1	33.01
Boy Scout Camp Lease ..	1	80.00
Five-Acre Tract Leases <sup>a</sup> .....	298	1,490.00
Fur Farm Leases <sup>b</sup> .....	20	96,080.00
Grazing Leases <sup>c</sup> .....	8,954	11,164,458.73
Mineral or Medicinal Spring Lease.....	1	40.00
Recreational Leases <sup>d</sup> ...	18	19,899.19
Water Well Leases...	10	400.00
<b>Total.....</b>	<b>9,343</b>	<b>11,308,396.83</b>

<sup>a</sup> Area arbitrarily shown as 5 acres per lease.

<sup>b</sup> All these leases are in Alaska.

<sup>c</sup> Nine leases (1,168,953.93 acres) in Alaska under act of March 4, 1927 (44 Stat. 1452; 48 U. S. C. sec. 471); 124 leases (123,661.61 acres) on Oregon and California revested lands; the remainder are outside of Grazing Districts under Sec. 15 of the Taylor Grazing Act of June 28, 1934 (48 Stat. 1269; 43 U. S. C. sec. 315).

<sup>d</sup> 8 leases and part of 1 lease are on Oregon and California revested lands.

# PUBLIC LANDS

## PATENTS ISSUED AND CERTIFICATES MADE

(Fiscal Year 1942\*)

Type of Patent	Public Lands		Ceded Indian Lands		Total	
	No.	Acres	No.	Acres	No.	Acres
<b>Homestead Patents:</b>						
Stockraising.....	380 <sup>b</sup>	191,439	11	1,227	391	192,666
Enlarged.....	41	10,141	41	5,559	82	15,700
Reclamation.....	306	30,064	1	160	307	30,224
Forest.....	18	1,203			18	1,203
Commuted.....	5	414	1	120	6	534
Sec. 2289, R. S. <i>et al.</i> .....	210 <sup>c</sup>	22,111	17	1,336	227	23,447
<b>Total Homestead Patents.</b>	<b>960</b>	<b>255,372</b>	<b>71</b>	<b>8,402</b>	<b>1,031</b>	<b>263,774</b>
Desert Land Patents.....	57	9,417			57	9,417
Public Auction Patents <sup>d</sup> .....	279	29,641			279	29,641
Timber and Stone Patents.....	4	279			4	279
Mineral Patents.....	89	4,392			89	4,392
Indian Patents.....	108	8,985	185	3,231*	293	12,216
Miscellaneous Cash Sale Patents.	164	6,450	3	640	167	7,090
Exchange Patents.....	234	704,003	1	2,914*	235	706,917
Curative and Supplemental Patents.	312 <sup>f</sup>				312	
Miscellaneous Patents.....	102	7,150	2	4,093*	104	11,243
<b>Total all Patents.....</b>	<b>2,309</b>	<b>1,025,689</b>	<b>262</b>	<b>19,280</b>	<b>2,571</b>	<b>1,044,969</b>
<b>Certified to States.....</b>	<b>xx</b>	<b>10,447</b>			<b>xx</b>	<b>10,447</b>
<b>Grand Total.....</b>	<b>2,309<sup>g</sup></b>	<b>1,036,136</b>	<b>262</b>	<b>19,280</b>	<b>2,571</b>	<b>1,055,416</b>

\* Where upon final examination it is found that an entry or selection is in proper form and that the law has been complied with, a patent conveying the legal title to the claimant is issued. In the case of indemnity State selections, the legal title is conveyed upon approval thereof by the Secretary of the Interior and certification by the Commissioner of the General Land Office.

<sup>b</sup> Includes 1 homestead (80 acres) on an abandoned military reservation but does not include 2 Indian homesteads (1,195 acres) reported under Indian trust patents.

<sup>c</sup> Includes 1 homestead (162.24 acres) on an abandoned military reservation.

<sup>d</sup> Isolated Tracts.

<sup>e</sup> Indian tribal lands.

<sup>f</sup> Acreage not counted because previously reported.

<sup>g</sup> Includes a small number of patents on Indian lands.

## MINERAL LEASES, PERMITS AND LICENSES ISSUED

(In Force June 30, 1942)

Mineral	Leases		Permits		Licenses		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Coal.....	372	71,284	124	89,607	99	3,193	595	164,084
Oil and Gas.....	3,325 <sup>a</sup>	2,562,222	14 <sup>b</sup>	27,477			3,339	2,589,699
Phosphate.....	7	4,938					7	4,938
Potash.....	20	47,092	1	2,539			21	49,631
Sodium.....	4	1,873	101	156,641			105	158,514
<b>Total.....</b>	<b>3,728</b>	<b>2,687,409</b>	<b>240</b>	<b>276,264</b>	<b>99</b>	<b>3,193</b>	<b>4,067</b>	<b>2,966,866</b>

<sup>a</sup> 1,453 producing leases (690,919 acres); the remainder are prospecting leases.

<sup>b</sup> Alaska.

## VIII. PUBLIC RESOURCES AND UTILITIES

Office carried its full load of land disposal functions as required by the public land laws. During the year, homestead, desert, and mineral entries of various types were allowed, others were perfected, and still others were patented. Other public lands were disposed of by public sales,

grants for public purposes, and exchanges of lands between the United States and other land owners. All lands applied for are now subjected to study and classification to promote proper use of the land and the protection of the public interest.

### MINERAL WITHDRAWALS AND CLASSIFICATIONS IN FORCE JUNE 30, 1942<sup>a</sup>

(In Acres)

Type of Mineral for which Land is Withdrawn or Classified	Area Withdrawn <sup>b</sup>	Area Classified <sup>c</sup>	Total Area
Coal.....	24,017,364	34,923,945 <sup>d</sup>	58,941,309
Oil.....	4,859,154 <sup>a</sup>	71,884	4,931,038
Oil Shale.....	5,989,949	4,081,208	10,071,157
Phosphate.....	1,889,601	302,219	2,191,820
Potash.....	9,411,906		9,411,906
Metallic Minerals.....	8,507		8,507
Total.....	46,176,481	39,379,256	85,555,737

<sup>a</sup> Includes private and other lands.

<sup>b</sup> Public lands included are believed to contain minerals but have not yet been examined and classified.

<sup>c</sup> Includes lands disposed of with reservation of minerals to the United States.

<sup>d</sup> Includes 5,229 acres reserved for use of the United States (Coal Reserves Nos. 1 and 2).

<sup>e</sup> Includes 13,578 acres withdrawn as helium reserve.

### AREA OF MINERAL RESERVATIONS IN PATENTS ISSUED<sup>a</sup>

(As of June 30, 1942)  
(In Acres)

Minerals Reserved	Area Patented During Fiscal Year 1942	Area Patented as of June 30, 1942
All Minerals:		
Stockraising Act....	193,861 <sup>b</sup>	33,433,330
Other Acts.....	665,415	1,897,514
Total.....	859,276	35,330,844

Specific Minerals:

Coal.....	10,224	10,846,077
Other <sup>c</sup> .....	14,371	1,859,722
Total.....	24,595	12,705,799
Grand Total...	883,871	48,036,643

<sup>a</sup> In compliance with the law the General Land Office in certain cases issues patents containing a clause which reserves to the United States all (or specified) minerals that may be found in the lands patented and which also reserves the right to prospect for, mine, and remove the reserved minerals.

<sup>b</sup> Includes 2 Indian trust patents (1,195 acres).

<sup>c</sup> Includes coal reserved in combination with other minerals.

## PUBLIC UTILITIES

### PUBLIC UTILITIES

BY H. M. OLMSTED

PUBLIC UTILITY ENGINEER-ACCOUNTANT

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#### GENERAL

The public utility industry, particularly the dominant portion that is held in private ownership, was greatly affected by the war activities of 1942. In the previous year it had felt the stimulation and, to some extent, the dislocations of defense preparations. The coming of war in December, 1941, intensified these effects and brought new problems and responsibilities.

War production activity caused increased use of all types of utilities, in residential, commercial, and industrial classes of service. The amount of increase varied greatly among localities and precipitated grave problems of supply and of distribution facilities. Federal and state authorities, particularly the former, extended the degree and kinds of control over the utilities, in allocation of power and gas, restrictions of material and equipment, direction and participation in expansion, and supervision of rates. Along with other industries the utilities faced personnel losses, priorities, and increased taxation.

#### ELECTRIC LIGHT AND POWER

The great importance of electric power in industries related to the war effort naturally resulted in widespread changes in the electric utilities, at least for the war's duration.

Electric power production, which had been generally increasing since a low point in the depression (1933), with a very substantial dip in 1938, continued its rapid advance, so that late in 1942 it was 50 per cent greater than at the low point of 1938 and nearly 70 per cent greater than the low point of 1933. Taking 1935-39 as a base of 100, the Edison Electric Institute showed that, at the beginning of 1942, the index of power production was about 125, rising to 137 in September, followed by a brief decline and a recovery. The greatest regional

rate of increase was in the Pacific coast states, where production toward the end of the year was more than 25% greater than in 1941, with the southern states running a close second. The New England and Middle Atlantic states showed much less of an increase (ranging around 6% to 10% over 1941) and the Central and Mountain states occupied an intermediate position in the scale. The over-all increase for 1942, over 1941, was about 13%.

#### ELECTRICAL CAPACITY

Early in the year considerable differences of opinion developed as to the outlook for providing sufficient generating capacity to supply war needs. President C. W. Kellogg of the Edison Electric Institute contended in January that existing capacity and the installations under construction or contemplated would be adequate, except for a limited amount of power rationing in a few localities. He gave the total installed capacity of the electrical utility industry, both private and public, at the beginning of 1942, as 44,350,000 kilowatts, with a peak demand of 35,100,000 kilowatts; expected additions to capacity, by new construction, were 3,664,000 kilowatts in 1942, 2,746,000 in 1943 and probably a similar amount in 1944, or total additions of 9,156,000 kilowatts.

Chairman Leland Olds of the Federal Power Commission took a much darker view of the situation; he gave the installed capacity at the beginning of 1942 as 42,800,000 kilowatts, while he regarded only 36,500,000 kilowatts of the capacity of the major power systems as dependable, on the basis of a low-water year, which capacity was scheduled to increase to 39,756,000 kilowatts in 1942 and to 42,708,000 kilowatts in 1943. It was predicted that a shortage of 2,000,000 kilowatts



## VIII. PUBLIC RESOURCES AND UTILITIES

might occur in 1942, increasing to 3-500,000 in 1943. By the end of June Mr. Kellogg stated that the virtual doubling of the planned scope of war output since December might well necessitate some rationing of electricity later in the year. The Brookings Institution issued a report predicting an eventual power shortage serious enough to hamper the war production effort, unless conservation and more effective utilization occurred immediately. On July 22, J. A. Krug, then chief of the power branch of the War Production Board, which has jurisdiction over power allocation and plant expansion, replied that there was sufficient power at hand and in prospect to meet war requirements and essential civilian needs, if wisely used. The improved outlook was due to rains that had built up the hydro-electric reservoirs, to a huge generator production program, and to extensive interconnections and adjustments for the production and transmission of electrical energy.

At the annual power conference of the Edison Electric Institute, in June, Mr. Krug announced the development of a regional rationing scheme, involving curtailment of commercial and residential consumers, in certain areas, in favor of war production industries, although such rationing was not expected to become serious before 1943.

### **CURBS OF THE WAR PRODUCTION BOARD**

In July the WPB set a limit on the amount of additional generating capacity for the war's duration, electric utilities being allocated 5,300,000 kilowatts of new capacity, most of which would be installed by the end of 1943, with 1,830,000 kilowatts to go into service by the end of 1942. Slightly over half of the addition was to be in steam power plants and the rest in hydro plants. The 5,300,000 kilowatts was stated to be the retained portion of a total of 9,600,000 kilowatts of generating equipment on order with manufacturers for delivery through 1945. On Aug. 21 the permitted total addition was revised to 5,500,000 kilo-

watts, related to war activity; work on power projects totaling 2,200,000 kilowatts was stopped, because of the necessity of diverting critical materials and equipment to the direct war program. (Work on projects of the Rural Electrification Administration, unless specifically approved by the WPB, had been stopped shortly before). It was stated that the probability of widespread curtailment of electricity for civilian purposes, especially in 1943 and 1944, was much enhanced.

On Oct. 28 work on certain Federal power and irrigation projects that had previously been allowed to continue was stopped entirely. These included three generating units at Grand Coulee Dam, in the state of Washington, and five Reclamation Bureau projects in the far West. The Tennessee Valley Authority also suspended construction on the Wautaga and South Holston dams. In November the WPB also revoked priority ratings on five TVA generator installations formerly scheduled for completion in 1944.

The WPB not only restricted the use of critical materials and equipment, and thus the expansion of generating capacity, but through its power division prescribed various plans and routes for interconnecting and pooling power. For example, in the early part of the year, plans for interconnections for the benefit of the government aluminum plant at Lake Catherine, Ark., were worked out by the WPB power branch after the private utilities and the Rural Electrification Administration had submitted divergent plans. A projected REA transmission line was utilized to link the Lake Catherine plant with the government hydro-electric plant at Pensacola Dam in Oklahoma, and connections with private companies were added. Later an REA line proposed to connect with a group of Kansas companies and also a projected line of utility companies from Arkansas to Kansas, were dropped as not essential in view of the increasing shortage of copper. Priorities that had been granted to the Federal Works Agency to complete a line to

## PUBLIC UTILITIES

Tulsa and to add another connection to Pensacola Dam were continued, the lines being considered necessary to integrate the hydro-electric energy into the power pool.

The WPB exercised strict control over critical materials required by utilities, as well as other industries, particularly as to steel, copper, and aluminum. Early in November a new allocation system, the Controlled Materials Plan, was announced; it is headed by Chairman Eberstadt of WPB's Requirements Committee, to which are submitted the requests for materials, after initial adjustment by seven "claimant agencies." For the utilities the claimant agency is the Office of Civilian Supply, with the power division as intermediary. The priorities procedure heretofore in effect as to utility companies was continued.

### FEDERAL POWER COMMISSION

On Oct. 16 the FPC announced that it would not claim jurisdiction, because of interstate interconnections brought about by the war emergency, in the case of intrastate power companies not already under its jurisdiction. Interconnection to increase power supplies for war industries is thus encouraged.

On Sept. 26 President Roosevelt urged that power costs for war production be kept at a minimum and recommended purchase of power direct from its source, private or public, rather than from an intermediate company, such company, if a means of transmission, to receive reasonable transmission charges. On Oct. 22 the President asked the Federal Power Commission to establish a procedure for this purpose, in collaboration with procurement agencies and the WPB, the FPC to determine whether power rates are reasonable and, after consultation with the WPB as to priorities and allocations, to decide whether a cheaper source is available.

### SECURITIES AND EXCHANGE COMMISSION

The SEC continued its efforts for strict enforcement of the Public Utility Holding Company Act of 1935

requiring simplification of a given holding company, so far as possible, to a single integrated public utility system. The constitutionality of the latter requirement—the so-called death-sentence clause—was challenged in the Federal courts during the year by several large holding companies that had been ordered to divest themselves of the stock of various subsidiaries, or otherwise simplify their systems, including the United Gas Improvement Co., the North American Co., the Commonwealth & Southern Corporation, and others.

Other companies challenging the constitutionality of the act include the Engineers Public Service Co., ordered to confine itself either to the Virginia Electric & Power Co. or the Gulf States Utilities Co., as it desires; and two sub-holding companies of the Electric Bond & Share Co. (Electric Power & Light Corp. and American Power & Light Co.) which were ordered to dissolve as being unnecessary complications of the holding company structure and as not conforming to the integration requirements of the act. The Columbia Gas & Electric Co. and the Middle West Corporation have also appealed simplification orders.

Another large system that has been ordered to simplify is that of the Associated Gas & Electric Co. A plan of simplification proposed by the huge United Corporation, holding minority interests in several large systems, was rejected by the Commission, and its public utility division urged the dissolution of the corporation.

An important court decision for the SEC was the ruling of the Federal District Court in Jacksonville, Fla., in the case of the Jacksonville Gas Co., that the Commission has power over the corporate structure of an operating company that is not a holding company, if necessary for the fair distribution of voting power.

### REGULATION OF GAS CONSUMPTION

Sharp increases in consumption of gas, both natural and manufactured, occurred during the year. The WPB took control of the allocation of natu-

## VIII. PUBLIC RESOURCES AND UTILITIES

ral gas for industrial purposes, and on Aug. 25 issued an order permitting manufactured gas utilities to reduce deliveries according to a prescribed order of preference, in case of insufficient supply, and restricting the delivery of gas for operation of additional gas-fired equipment or for additional space-heating purposes, unless approved by the WPB Director General of Operations.

Later in the year Mr. Marks of the power division of WPB (having certain jurisdiction over gas utilities also) urged economy in gas cooking and heating and warned of a threatened gas shortage in many cities, pointing out that the gas demand of war industries was increasing, masses of workers were migrating to industrial areas, and gas companies were unable to obtain steel and other critical materials to expand their capacity.

### TELEPHONE AND TELEGRAPH

In March President Roosevelt delegated to the Defense Communications Board (now Board of War Communications) headed by Chairman James L. Fly of the Federal Communications Commission, the power to control, operate or close telegraph, telephone, or other wire communication facilities. Similar power as to radio communications had been delegated on Dec. 10, 1941. The officials concerned disclaimed any intention of large-scale intervention in private operation of communication companies.

In the same month the WPB, by a general conservation order, required telephone companies to refrain from changing central-office and private branch exchange switchboards from manual to dial types, and from further installation of extension telephones in residences unless essential to health and safety. This order was expected to save annually 35,500 tons of lead, 29,500 tons of copper, 29,000 tons of iron and steel, and other substantial quantities of important materials.

On Dec. 1 the Federal Communications Commission, at the request of the Board of War Communications, issued an order limiting all new projects for construction of telephone and

telegraph lines to those that serve "an essential military need or a vital public need which cannot otherwise be met."

Hearings began in August, in a proceeding before the FCC and representatives of the state commissions, for the determination of principles and methods of apportioning telephone revenues, expenses, and plant between local exchange use and long-distance (toll) use, and also between intrastate and interstate use. This problem has been a thorny one in rate regulation, particularly by state commissions, which lack authority over interstate business. It also involves the relation between the long-distance business of the American Telephone & Telegraph Co. and the local business of its subsidiaries.

The possibility of merging the Western Union and Postal Telegraph systems increased during the year; the Senate on June 22 approved a bill to permit such a merger, and although the House of Representatives late in the year had not yet passed the measure, strong support for it appeared in various influential quarters.

### TRANSIT

An unprecedented load was placed upon the local transportation facilities of the nation, because of increased employment and a shift of riding from private automobiles to public vehicles resulting from the rubber shortage and gasoline limitations. At the annual meeting of the American Transit Association in September, Charles Gordon, managing director, predicted that the transit systems in the United States would carry 18,000,000,000 riders, an all-time high. At the same time the transit systems were greatly handicapped by restrictions against obtaining new equipment. The trend from street railway to bus operations was halted because of the rubber and gasoline situation and the need of conserving vehicles; even some reversion from buses to street cars occurred, where facilities were still in place.

A large degree of control of local transit, as well as of railroad trans-



## PUBLIC UTILITIES

portation, has been assumed by the Office of Defense Transportation, headed by Joseph B. Eastman. In the early spring the ODT prohibited substitutions of bus for rail transportation. At the Transit Association convention, Mr. Eastman urged the pooling of the facilities of the transit industry. On Sept. 8 it was announced that the ODT would take control Nov. 15 over every form of commercial motorized transport, including trucks, buses and taxicabs, through a system of certificates of war necessity for operating such vehicles; the certificates are required in order to obtain tires, gasoline, or replacement parts.

The governors of the states and the mayors of all cities of over 10,000 population were asked by Mr. Eastman to appoint administrators to aid the ODT in a voluntary program primarily embracing group riding in private cars, staggered hours for offices and factories, and traffic regulations.

### RATE REGULATION

Public utility revenues and expenses were subject to many diverse influences during the year, which in some instances brought attempts at rate adjustment. Revenues generally increased, because of the much greater demand; certain expenses also increased, including costs of supplying the larger demand, and also certain higher costs of material, labor, etc. On the other hand, restrictions on material and manpower tended to keep costs down.

A large element in increased costs was the tax bill. Utility companies, like other corporations, faced much higher income taxes and excess profits taxes, which, although results of greater net incomes, present a troublesome problem in rate regulation. It has been customary to allow the income tax in full as a deduction from revenues, in fixing rates; but the objection has recently been urged that, if the higher income taxes due to the war effort are deducted for rate-making purposes, the consumers will thereby be burdened, while the stockholders will be relieved of that increase. Late in September the Federal

Power Commission, in ordering a large reduction in the gas rates of the Panhandle Eastern Pipe Line Co., suggested but did not require that the income tax rate for 1940 (24 per cent) be considered a maximum to be deducted in determining income for rate-making. (The income tax rate for 1941 was 31 per cent, and for 1942, 40 per cent.) Other regulatory agencies are considering ways of handling the problem. An obvious alternative is to allow the tax but cut the permissible rate of return on the investment or rate base.

In the Panhandle Eastern case and in several other recent instances, the FPC entirely discarded reproduction cost in favor of the original cost of the existing plant in service, less depreciation, in determining the rate base, saying that "any thought that reproduction cost evidence is any longer required in the rate-making process is substantially destroyed." This was related to the decision of the Supreme Court in *Federal Power Commission v. Natural Gas Pipeline Co. of America*, on March 16, which, although original cost as against reproduction cost was not directly at issue, indicated that a regulatory body has wide discretion as to rate-base theory.

The FPC, aside from winning the Natural Gas Pipeline case, in conjunction with the Illinois Commerce Commission, had another victory in the case of the Alabama Power Co. (128 F [2d] 280), in the U.S. Court of Appeals for the District of Columbia, where the court held that the FPC had the power to require the company, which holds a Federal water power license, to charge off substantial items of alleged property cost against its surplus. However, on April 6 the Supreme Court refused to hear the FPC's appeal from the decision of the Circuit Court of Appeals in the Safe Harbor Power Corporation rate case, where it was held that the FPC lacked power to fix interstate wholesale rates for electric energy, unless the commissions of the states involved were unable to agree on the rates.

In the telephone field the Federal



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Communications Commission in November instituted a new proceeding looking to a large reduction in the long-distance rates of the American Telephone & Telegraph Co., which had just declared another dividend at its usual rate of 9 per cent. The commission said that excess earnings ranging from \$47,000,000 to \$62,000,000, depending on how Federal income taxes are handled, were indicated for the year.

Shortly before the adjournment of Congress an effort was made to place a ceiling on utility rates in the nation at the Sept. 15 level, any increases to be subject to presidential approval. Instead, however, it was merely provided that before any common carrier or public utility shall make any general increase in its rates it must give 30 days' notice to the President or his designee, who can then intervene before the agency considering the rate increase. The President designated Director of Economic Stabilization James F. Byrnes, who in turn authorized the Office of Price Administration to appear for him in such rate cases. The OPA issued a regulation, effective Nov. 12, defining a general rate increase, requiring notification on or before the date when such an increase is sought from a regulatory body, and calling for certain data as to the proposal. The OPA public utilities division has been actively participating in various rate increase cases.

During the year the FPC and various state commissions, in conjunction with the utilities, continued their work of determining the original cost of existing plant, particularly of electric and gas utilities, for aid in rate and capitalization cases and in computing annual depreciation allowances. In some states, notably New York, detailed continuing property records are being set up, thus facilitating accurate accounting for retirements as well as additions, and keeping the cost record of existing property as exact as may be practicable at all times.

### LABOR RELATIONS

Labor troubles were relatively few in the public utility industry during

the year, but there were several strikes and threatened strikes on publicly owned as well as privately owned utilities. The War Labor Board took part in various controversies involving the privately owned companies, but when the Transport Workers Union (CIO) sought the services of the WLB in its effort to obtain a 15 per cent wage increase on the subways and other lines of the New York City Board of Transportation in November, the city denied that the WLB had any jurisdiction over the dispute. In Detroit, however, a peace agreement proposed to two rival unions on the city-owned street railways by the WLB was ratified by the unions on March 31. The two unions, one of AFL and the other of CIO affiliations, were given separate spheres of activity—operation and maintenance, respectively.

On Oct. 23 an organization of labor unions in the utility industry, not affiliated with either AFL or CIO, was formed in Chicago at a meeting where 24 unions representing a membership of 251,000 formed the United Utilities Union of America. Among the cities where member unions operate are New York, Chicago, Boston, Cleveland, Pittsburgh, St. Louis and Cincinnati. It was expected that an effort would be made to include the National Federation of Telephone Workers, with 150,000 members.

### PUBLIC OWNERSHIP

Influences both favorable and unfavorable to public ownership of utilities developed during the year. Expansion of existing Federal agencies, such as the TVA, Bonneville, and Grand Coulee, was slowed by the restrictions on generating equipment, copper, etc. Grand Coulee, however, which began operating on Oct. 4, 1941 with a single 108,000 kw generator, attained a capacity of 324,000 kw during 1942, with other generators in process of installation, although not all that were contemplated. Additions and expansion of municipally owned electric plants through aid of the Public Works Administration has apparently ceased for the present.

## WATER SUPPLY

On the other hand, the orders of the SEC, directing various holding-company systems to be broken up, have presented many opportunities to municipalities and other public bodies to acquire gas and electric properties, and a number have taken advantage of them. For example, in October there was announced the purchase of the properties of the San Antonio Public Service Co., a subsidiary of the American Light & Traction Co., by the City of San Antonio. The property includes electric generating, transmission, and distribution facilities and a gas distribution system.

In June the Kentucky-Tennessee Light & Power Co., subsidiary of the Associated Gas & Electric system, dissolved; its properties were purchased by the TVA, which retained certain generating plants, substations, and transmission lines, and sold the rest to five western Kentucky municipalities and four rural electrification co-operatives representing 30 counties in Kentucky and seven in Tennessee.

Another city-owned transportation system was added in April when Cleveland purchased and began to operate the property of the Cleveland Railway Co. Earlier in the year the long controversy as to disposal of electricity generated at the Hetch Hetchy power plant, owned by San Francisco, was temporarily settled by an agreement that the output be used for aluminum production; former sale of power to the Pacific Gas & Electric Co. had been declared illegal.

A new organization, the American Public Power Association, which was formed late in 1941 primarily as a service organization for publicly owned utilities, established headquarters in Washington early in 1942.

No general movement toward public ownership was apparent. Private ownership under state and Federal regulation continues to prevail in the utility field, with drastic restrictions, emphasis on war aspects, and large increases in Federal as against state control, at least for the war's duration.

## WATER SUPPLY

BY ROBERT SPURR WESTON  
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### GENERAL

The year 1942 witnessed many changes in the construction and management of waterworks, yet there remains the fundamental fact that water is a most important necessity. Just as drinking water is more vital than food for the human body, so is the general water supply a primary necessity for national life, whether the country be at war or at peace. Houses, as well as armies, navies, and encampments must be supplied.

### WATERWORKS CONSTRUCTION COSTS

It is difficult to make a comparison of construction costs. In 1941, waterworks costing over \$15,000 each totaled \$76,698,000, a gain of about 10 per cent over the previous year.

Beginning in 1941 and continuing

through 1942 there occurred a cessation of construction for ordinary municipal supply and a great increase of construction of works to supply war industries and concomitant housing, and the numerous airports, encampments, forts, and military and naval stations.

Financial statistics for 1942 are doubtless incomplete, but the total recorded cost of construction for waterworks costing \$15,000 or more was \$150,965,000, an increase of 97 per cent over the recorded cost in 1941.

### WAR CONSTRUCTION PROBLEMS

The war news items in engineering publications have not covered the work so completely as usual; nevertheless, the following citations will

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illustrate the work of the year and some of its unusual characteristics.

In the beginning of the year much municipal work, which had hung over from the period when municipal construction was furthered by grants from the P. W. A. and the W. P. A. to relieve unemployment, was coming to completion. At the end of the year most of the projects had to do with the supply of water to the Army, the Navy, to war industries, and to those municipalities where demands for water had been increased by added population engaged in war work. In addition, some isolated war interests demanded large supplies and expensive construction. The laying of over 4,700 miles of water piping in army camps, where the water consumption will total about two-thirds that of New York City and where because of soldiers' simultaneous habits peak demands are high, illustrates the magnitude of the work. To further all these wartime necessities the W. P. B. cut ordinary state and municipal construction to the minimum.

An example of critical conditions is found in the San Luis Obispo District, lying between Los Angeles and San Francisco, where army camps designed for 50,000 troops have been constructed near incorporated cities having a total population of only about 13,000; here the advent of construction men and their families and the presence of thousands of soldiers on week-end leaves presented a real sanitary engineering problem.

### EXTENSION OF WATER SUPPLY SOURCES

**Wilmington, N. C.**—Some cities along the Atlantic seaboard, like Wilmington, N. C., which are supplied from deep wells, have been obliged to extend their works to sources further inland to avoid the drawing of salt water into their ground water supplies by excessive pumping.

**New York.**—For the same reason New York City had to cease its takings from the ground water sources on Long Island when the shortage in its surface water sources was so serious

during the drought in 1941-42, which was fortunately relieved later. Part of the Delaware River Aqueduct, from the Merriman Dam on Rondout Creek to Hillview Reservoir near the northern city line, 85 miles in length, is practically completed and will add 100,000,000 gallons a day to the over-taxed New York metropolitan supply. Further extensions of the Delaware River Aqueduct to the Never-sink River and to the east branch of the Delaware, to develop yields of 70 and 370 M.G.D., respectively, are planned for the future, and will enable New York to avail itself of the additional supply of 440 M.G.D. from the Delaware River, which has been granted by the Supreme Court.

**Toledo** has placed in service a new supply from Lake Erie to replace the old Maumee River works and to supply its present metropolitan population of about 330,000 people with ample water from this new source. The works consist of intake, crib, pumping stations, filters, aqueduct, and storage reservoirs. It has a capacity of 80 M.G.D. It cost \$9,885,000 and may be readily expanded to meet war needs and future growth.

**Bridgeport and Other Cities.**—Oklahoma City has placed in service additional works costing \$7,000,000. Bridgeport with its various expanding industries is now using a large additional supply from the Saugatuck River, which was planned before the war. The new Berlin Reservoir in the Mahoning Valley, Ohio, has raised the safe yield of the Mahoning River to 16,000,000 gallons daily. The industrial city of Schenectady, N. Y., has added to its supply a new ground water system having a capacity of 30,000,000 gallons daily, and San Diego is enlarging its supply by the construction of the San Vincente Dam in order to meet the needs of war industries. Denver, also, has been well supplied.

**Los Angeles.**—It was most fortunate that the Colorado River Aqueduct had been placed in service in 1941, and that the Los Angeles Metropolitan District with its increased demands on account of the

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war was amply supplied. The latter works were wisely projected in 1923. Added to the works in 1942 was a softening plant designed to treat part of the supply now and for necessary enlargement later. The beautiful Spanish architecture of this plant deserves praise, as does the architecture of some other municipal plants constructed in recent years.

**Baltimore**, where, because of increased housing and the demands of war industries, a serious water shortage threatened and a bond issue of \$32,000,000 to provide for the supply of the city until 1950 had been voted down, has been obliged to make an emergency appropriation of \$6,000,000 to meet the present necessary demand.

**Newark, N. J.**—To make the developed sources supplying Newark and other industrial centers of north-eastern New Jersey fully available to all, connections between the aqueducts supplying Newark, Jersey City, and places in the Passaic Valley, have been made. Similar connections have been made in other places.

**Norfolk and Newport News.**—The supplies of Norfolk with its doubled population, Newport News with its shipyards, and the several military and naval bases in the tidewater region of Virginia, have required emergency additions to the Norfolk supply, the construction of 17 miles of transmission lines and a 6 M.G.D. filter plant for Newport News, and the recently started construction of impounding reservoirs on Queen Creek and the Chickahominy River to provide an additional storage capacity of 4,000,000,000 gallons. Accounts of conditions and emergency construction in other states—Florida, for example—might be cited, but in each case the sought-for end has been more water and good water as soon as possible, and in but few cases have novel methods of construction been used.

**Chattanooga and Elsewhere.**—To provide water for ammunition and ordnance works and for army and navy establishments, in most states, in foreign countries, and in

islands of the sea, the available construction resources of the country have been heavily taxed. The magnitude of the demands may be appraised by reference to the new works at Kankakee, Ill., Williamsport, Pa., and Chattanooga, Tenn., designed to supply 62, 50, and 80 M.G.D., respectively. The capacity of the Chattanooga works, for example, is adequate for the supply of an ordinary city having a population of from 800,000 to 1,000,000 persons.

### SUPPLY WORKS IN PROGRESS

It is difficult even to name the most important of the new developments brought about by the war because many are under construction and have not yet been described. Most of the cities in the southwest, like Houston, Tex., where a project to cost \$18,000,000 is underway, and like San Antonio, Dallas, Oklahoma City, and Tulsa, are rapidly extending their facilities. Indianapolis, Ind., Atlanta, Ga., Washington, D. C., the industrial towns in eastern Tennessee, Newport, R. I., and Portland, Me., also exemplify the increased construction which the war has demanded. Philadelphia, where the consumption is well above the safe yields of its sources, is making extensions and improvements to cost \$18,000,000; but, after adding 60 miles of pipe costing \$3,600,000 to its system, Detroit with its expanding industries has been unable to carry out its extensive Willow Run project because the desired grant from the F. W. A. has been held up. Likewise, the construction of the pressure aqueduct for the Boston Metropolitan works, from the Weston Reservoir to Chestnut Hill, designed to obviate pumping and to give greater protection against both contamination and attack, still awaits an expected Federal grant of about \$3,000,000. Evidently other demands are more pressing.

### PRIORITIES

Not only did the year witness both a tapering off of subsidized municipal work and furious construction for war industries, for military establish-



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ments, and of ships, but it also witnessed the export of large amounts of waterworks materials to defense military bases in Greenland, Iceland, Eire, Canada, Bermuda, South America, and recently in Africa.

Because of the ordinary use of so many critical materials by waterworks, the War Production Board issued a series of preference rating orders, of which, P-46, with amendments P-46-a and P-46-b, was issued through the Board's Power Section on Oct. 10, 1942. While this order betters the ratings for general use and in emergency, it places new restrictions upon the purchase and use of critical materials, notably cast iron, steel and wrought iron pipe, copper and brass pipe and tubing, lead pipe and fittings, valves and valve parts, hydrants, and other transmission and distribution materials and supplies.

Permissible ordering of these materials for distribution systems is cut to 60 per cent of the 1940-dollar volume, of which at least 40 per cent must be obtained from waterworks rather than from producers. The use of copper tubing is prohibited except for limited replacements and repairs.

Permissible acceptance of materials ordered is prohibited until the inventory of items in the same class is reduced to 60 per cent of the 1940-dollar volume. Permissible withdrawal for use of more than 60 per cent of the 1940-dollar volume of materials for operation, maintenance, and repair in any quarter is forbidden.

Amendment P-46-a permits the making of service connections to the facilities of the Army, the Navy, or the Maritime Commission, provided the total length of the main extension or the service line does not exceed 250 ft. and the total cost of the required materials does not exceed \$1,500 for underground construction or \$500 for other jobs.

The salient features of control are: (1) All projects require submission to the W. P. B. on forms stating the need for the projects under war conditions and giving lists of materials with costs and quantities. These

projects are examined by groups in the W. P. B., and if approved go to "Issuance," a group which rates the relative needs and necessities. (2) A small and limited amount of material may be issued from stock to carry on necessary work already started. (3) Authorization for repairs and breakages may be given. (4) Inventories of stocks of materials are to be filed, and cooperation by exchange of materials among waterworks is being planned. (5) The Board may order a substitute for the required material.

Although the handling of applications is becoming more prompt and skillful, ratings may require several weeks for acceptance, and many ratings are below the capacities of suppliers of materials and even a more efficient personnel than is now available could not increase the speed of delivery.

These are stringent restrictions. Fortunately they do not cover materials for sources of supply (reservoirs and elevated tanks), nor materials like stone, brick and cement, purchase of which may reach 100 per cent of the 1940-dollar volume. The purchase of fuel, and of chlorine, alum, and other chemicals required for water disinfection and purification is not restricted.

Dealers in iron pipe have produced about two-thirds more than in 1941, but because the use of this pipe is so restricted, reinforced concrete pipe has been substituted, and because this contains steel, increasing use is being made of asbestos and cement pipe, which is metal-free.

Naturally, these various restrictions require the solution of many problems by the management of waterworks. One of the most difficult of these is the control of the effect of the new materials upon the character of the water supplied by them; another is the necessary reduction in consumption.

### WATER PURIFICATION AND TREATMENT

The South District Plant in Chicago is approaching completion after eight years of research. Its capacity,

## WATER SUPPLY

320 M.G.D., is the largest in the world. Its cost will be about \$22,000,000. It has made interesting substitutions of construction materials for those needed for war uses.

There are many other new purification plants and extensions of old ones, not to mention the large number of plants for supplying military establishments and war industries. The data published on Nov. 6, 1942 by the U. S. Public Health Service shows that in 1940 treated water was served to 56.6 per cent of the United States population by 5,372 plants. Nearly all of the urban population of 74,421,133 is served, and while the records are incomplete it is believed that 49 per cent of the plants are supplied from surface sources, 46 per cent from ground water sources, and 5 per cent from both.

### WATER SOFTENING

At present there are 575 softening plants, supplying a population of 9,900,000. Only one of these, a small zeolite plant for the auxiliary ground water supply of Winchester, Mass., is in New England. Their distribution is as follows:

Section	No. of Plants
North Atlantic States.....	57
Central States.....	250
Southern States.....	70
Pacific Coast States.....	11
New England.....	1
West of Mississippi River.....	186
Total.....	575

By employing mineral zeolites (base exchangers), which have come into increasing use, it is possible to change all of the calcium and magnesium in a water to sodium and thereby reduce its hardness to zero. The exhausted zeolite is then regenerated with brine which restores its sodium content, and after the removal of the excessive salt by washing it is ready for another period of service.

Since 1935, another type of zeolite known as organic or resinous zeolite has been developed. Unlike its predecessor which does not reduce the mineral content of treated water, this

is able to secure the almost complete removal of solids even to the point of competing with distilled water. Already a number of high pressure steam plants and ice plants are using organic zeolites, and while probably they are yet too expensive for municipal use, their future is promising. Instead of being regenerated with salt, these zeolites are regenerated with sulfuric acid or sodium hydroxide.

Following the example of Minneapolis and St. Paul, Kansas City has added a water softening plant costing \$900,000 to its existing water purification plant. The cost of this addition was about \$30,000, and it will save consumers over \$300,000 a year. At St. Paul, the cost was \$50,000 and the annual saving was about \$330,000.

### CHLORINATION

Because of the possible willful contamination, chlorination has been specified in many states for all supplies, including some which require no treatment under normal conditions. Because of the difficulty of extending the effect of disinfection to the limits of widespread distributing systems, ammonia is often added to increase its range of action.

Adequate chlorination of many waters sometimes results in bad tastes and odors, especially when large residual doses are employed. Treatment with ozone in its place has been resorted to. A successful example of this treatment is at Whiting, Ind. where the change from treating highly polluted lake water with chlorine to treatment with ozone increased the reduction in odor from 58 per cent to 83 per cent.

### PROTECTION FROM BOMBING

While many doubt the probability of damage by air raids, the increased long range of bombers of the flying fortress type and the possibility of using airplane carriers make precautionary protection imperative, especially within a zone 300 miles wide along the seacoast. Craters 40 ft. deep and 50 ft. wide are possibilities

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and the damage resulting therefrom should be considered possible and guarded against.

Experience in England has shown that the greatest damage has not been to dams, pumping stations, and water purification plants but to the supply mains. Especially hazardous are simultaneous breaks of water mains and sewers. Prompt repair and adequate disinfection are required. Among the requirements are emergency supplies and emergency pumping stations, protective covers over important streets, splinter and blast protection equipment, and protection of records and food supplies.

Following the example of London which has stored 180,000,000 gallons of water along 180 miles of mains, San Francisco has stored 8,000,000 gallons in 106 cisterns located not more than 1,000 feet apart. Swimming pools are also used for storage, and Chicago is organized to handle eight simultaneous breaks in water mains. While armed guards are necessary in some cases, it is of course impracticable to protect large areas by this method. Camouflage and preparedness for repairs are more efficient means.

Many fear the poisoning of water supplies by chemicals, especially those containing arsenic. However, a little study shows that the amounts required under ordinary conditions of dilution are enormous, and furthermore the sense of taste is a safeguard. Consequently, the danger of chemical poisoning is not to be greatly feared. Much more dangerous would be the injection of cultures of disease germs into a distribution system. For this reason the health authorities have insisted upon chlorination of water supplies even though initially pure.

### THE MUTUAL AID PLAN

What is known as the Mutual Aid Plan, following the general recommendation of the Office of Civilian Defense, is working out best and is being developed rapidly. Some of its essentials are as follows:

(1) Promotion of intercommunications to the greatest degree and of knowledge regarding the location of

all sorts of supplies for emergencies.

(2) Inter-connection of municipal supplies with industrial supplies.

(3) Accurate mapping of works and thorough knowledge of valve locations.

(4) Adequate inspection of valves and the installation of additional valves to reduce the sizes of areas which must be shut off in case of damage by bombing.

(5) Close cooperation and collaboration between water and fire service officials with a view toward the mutual use of emergency supplies if necessary. Maps and plans should be in the hands of both groups of officials.

(6) Correlation between electric power and other utility officials on problems of mutual interest, with sources of auxiliary power and other help known and available for use.

(7) Careful provision for the protection of the supplies to war industries.

(8) Because sabotage may be attempted on a considerable scale, officials should be on the alert, and only trustworthy employees should be engaged.

(9) The preparation by each water authority of inventories, and the filing thereof with a Zone Water Coordinator, is a vital necessity of the Mutual Aid Plan, because of the restricted priority ratings and scarcity of supplies. The W. P. B. may utilize the State Coordinator to handle the surpluses in the inventories and act as a clearing house for the disposal of waterworks materials. These inventories should be kept up to date.

(10) At each civilian control center someone should be appointed to handle requests for water service aid and carry these requests to the State Coordinator for Civilian Protection so that the waterworks superintendent may not call for help in vain.

(11) The local water officials should take an integral part in planning and organizing for civilian defense.

(12) Emergency crews for repairs, emergency supplies, and the waterworks operation should be organized and trained. An ample reservoir of

## STREET AND HIGHWAY TRAFFIC

trained volunteer workers should be in readiness, and schools should be established for instruction. The Maine Water Utilities initiated such a school in 1941, and other states, New York, for example, have followed.

In spite of the difficulties due to the change from peace to war, the waterworks authorities are adequately organizing for defense. In so doing they have been greatly helped by England's experience. They will keep the water flowing!

## STREET AND HIGHWAY TRAFFIC

By ERNEST P. GOODRICH

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### GENERAL TRAFFIC FACTORS

It was estimated that 31,944,764 motor vehicles and trucks were registered for 1941 of which number 27,387,806 were passenger cars. Passenger car production was discontinued Feb. 10, 1942, while medium size truck production continued until April 30 and heavy trucks until May 31.

Traffic observations in 35 states revealed that there were more automobiles on the road everywhere than were to be expected from tire and gasoline restrictions. The majority of the traffic was intra-state rather than inter-state, with exceptions near army camps, flying fields, manufacturing and munition plants, and naval bases. The Public Roads Administration reported that in September 1942 traffic in the gasoline rationed area was 43 per cent less than a year before. There was a 49 per cent drop in August and decreases in traffic were noted in June and July, this summer reduction evidently being due to the diminution of pleasure travel.

According to surveys by the Public Roads Administration, rural highway traffic in July was down 41 per cent in gas rationed areas and 28 per cent in non-rationed areas compared with the same month a year previously. Toll facilities showed a decline of 32 per cent. Auto mileage use to the extent of 43 per cent was classed as non-essential or recreational. The average car mileage used for business purposes was 57 per cent for all states.

Due to war conditions an increase in the number of horse-drawn vehicles was observed. Pedestrians seemed to

take more chances, apparently because there were fewer cars on the road.

### PASSENGER CAR TRANSPORTATION

In most sections of the country the effect of rubber and gasoline rationing and the admonition of the government to reduce speeds generally had a considerable effect on passenger cars. This reduction averaged about five miles per hour, but heavy trucks and buses maintained their former schedules. It was found that outside the larger towns, former high speeds were maintained by women by 60 per cent, young people by 30 per cent, and men driving alone by 10 per cent. Arizona's signs were the only ones which achieved results. The number of persons per passenger vehicle was generally found to have increased about 25 per cent.

A survey showed that nearly 43.5 per cent of those living in rural areas were almost entirely dependent on private automobiles for transportation. Over 54,000 communities had no railroad services, and there were 2,314 cities in the United States with a population of 12,524,000 which depended solely on private cars.

Of all the people who entered the business district in one Michigan city, 91.8 per cent came in automobiles, there being no intra-city mass transportation facilities.

It was estimated that 500,000,000 passenger miles had been travelled during the year by private automobiles, plus 73,000,000 passenger miles by all forms of mass transporta-



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tion. The local transit carriers in the urban areas handled over 12,000,000,000 riders in 1941 because of the shorter trip length involved, and estimated figures for 1942 indicated an increase in this figure.

### TRUCK AND BUS TRANSPORTATION

It was also estimated that the average length of a motor vehicle trip was about 15 miles. The average trip length of a truck was estimated to be 17.4 miles. Trucks to the number of 4,600,000 were used between communities and railroad stations, on farms, and for local hauling. It was estimated that these trucks handled over 160,000,000,000 ton miles per year, which was nearly half as much as the rail ton-mileage for 1940 and about a quarter of the 1942 estimated railroad ton mileage. Large numbers of small plants were entirely dependent on motor truck shipments for their continued operation. Thirteen and one-half per cent of the war production plants in Michigan were found to be solely dependent on motor trucks. It was felt that there was an increased demand for transportation by road.

Gasoline rationing, tire shortage and wartime restrictions on travel in general contributed to a very decided decline in road-borne traffic, according to the Public Roads Administration. In a report to the Highway Research Board meeting. There was a steady decline in number of vehicles of all classes, though the ratio of trucks to cars rose. A higher percentage of trucks ran without loads, but trucks that did have loads carried bigger ones.

The cargoes of trucks that did have loads were so much greater than they had been in pre-war times that despite the decreased number of loads the number of ton-miles of load carried by truck, for the country, as a whole, was almost as great as in 1940. In the Pacific Coast region, it was 22 per cent greater.

Wage earners averaged 385 trips yearly, driving 3,782 miles on essential trips, with 67 per cent farm car

mileage for necessity purposes. It was found that warworkers drove by automobiles to vital war plants in percentages ranging from 78 per cent to aircraft engine plants up to 95 per cent to naval ordnance plants.

Because of the shortages in gasoline, repair parts, and rubber, cities started to plan an efficient mass transportation system to carry workers from their homes to defense plants and other places of business. The Office of Production Management recognized the importance of transit vehicles and permitted trolley coach and motor bus production to be increased to nearly 2½ times that of February 1941. Buses, street cars and trolley coaches were practically the only passenger vehicles being manufactured in the United States.

### CITY SURVEYS AND CHECKS

The transportation system in Seattle, Wash. was operated entirely on rubber tires. About 410,000 miles are covered by these coaches in a week. It was estimated that in October 1942 the system would carry an average daily load of 590,000 riders. This was estimated to increase to 710,000 in April 1943 and to 790,000 passengers per day in October 1943. Skip stops, express service, turnbacks, constant surveys and checks on all lines, switching of equipment to conserve seats and standing space, additional equipment, and staggered hours to spread both morning and evening peaks were inaugurated to serve the public in a speedy and efficient manner.

In order to stagger hours and relieve the pressure on transportation facilities, insure ease of traffic flow, and reduce accidents, many other cities made surveys. Satisfactory results were achieved where plans were put into effect. The working hours of employees of large manufacturing plants and certain companies were staggered to provide greater capacity on buses on certain routes. War production plants were aided with their transportation problems. Emergency traffic regulations were considered and plans for group riding were prepared. To

## STREET AND HIGHWAY TRAFFIC

determine the starting and stopping time of employees, questionnaires were distributed to workers in downtown business districts, a check was made of the buses and bus passengers leaving and entering these districts, and a survey was made of all automobiles and persons in automobiles entering and leaving downtown districts. For example, Houston, Tex. prepared a staggered hours plan for its downtown business district.

It was generally felt that group riding will eventually be successful, but results were disheartening. Some communities discovered little conservation of tires since the workers' families used the car during the day.

### TRAFFIC CONTROL PROBLEMS

Wartime traffic conditions demonstrated that the necessity for keeping vehicular traffic on the move at all times has become obsolete. Efforts on the part of certain city officials to curtail costs by extinguishing traffic lights proved disastrous. In one city the traffic lights were turned off for three hours, but so many near-accidents occurred that the lights were restored. In some communities, traffic lights were reduced in brilliancy so as to conform more closely to wartime traffic needs. This often made trouble. In some instances the pedestrians were practically ignored although many more people walked in order to save gas and rubber. Difficulties were also encountered in the operation of traffic lights where dim-out or blackout regulations were made by the installation of masks. It was found much the best course to insert transformers or extra resistance in the lamp circuits. Even so, the night accident rate increased.

The Office of Defense Transportation made detailed studies and issued numerous regulations covering many phases of street traffic operation. In April a 12-point statement of policy was issued. The impossibility was demonstrated of carrying all business traffic (consisting in many cases largely of war workers) on the commercial transportation systems, even after the imposition of staggered working, business, and school hours.

Share-a-ride, group-riding, and swap-riding were widely inaugurated. Even after all such efforts the business traffic, especially in the vicinity of war industries, increased heavily.

Traffic requirements were promulgated with reference to driving through air raids and blackouts and in and around many communities. Special secondary routes were established and necessary signs erected to be used by business and other civilian vehicles at times when military necessities required the preemption of the main thoroughfares by the armed services.

Several agencies developed the use of trailer buses for use in an effort to reduce the traffic congestion which existed in the vicinity of many war industries.

### SIGNS AND SIGNALS

The American Public Works Association reported that because of the shortage of metal, cities sought other materials for "stop" and "go" signals. Richmond, Va. used wood traffic signs which were spray-painted with a preservative before lettering. Police department workshops in Baltimore, made no-parking signs of a composition material and all metal signs which could be repaired were salvaged. Many signs had to be replaced because of war regulations concerning speed and other matters. Signs which are easily recognized day and night and are legible were advocated. A new type of cloth-like material for these signs was found to be highly reflective, durable and inexpensive.

Chicago is changing its 7,000 "stop" and "slow" traffic warning signals from battery-lighted flicker signs to glass beaded reflectors, finding them more economical and just as safe, according to information from the American Public Works Association. The reflector signals, costing an average of \$3.08 each, were chosen after several months experimentation to find a satisfactory substitute for the flicker lights, which included materials on war-priority lists, and were powered by current from storage batteries in the bases of the signs. The change of four-fifths of the signs saved the

## VIII. PUBLIC RESOURCES AND UTILITIES

city approximately \$200,000 a year in maintenance costs. Warning arrows on street car safety islands, also formerly flicker lighted, were changed to reflectors.

A new telaspeed sign was perfected which flashes the speed of a vehicle to the driver. Missouri moved the no-passing zone barrier stripe adjacent to the centerline stripe, to half-way between the centerline stripe and the edge of the pavement, *i.e.* out into the center of the lane. It was found that the paint would last longer as the left wheels of the cars would not be continually running on the strip.

A flexible progressive system of traffic signals was used in Philadelphia on one of its thoroughfares and found to pass traffic faster than its subway. It also reduced fatalities from an average of 23 per year to six.

A survey conducted by a well-known engineering magazine disclosed the fact that traffic signals are considered the most important device to keep traffic moving. Nineteen cities named signals first above ten other possible aids.

### PARKING FACILITIES

District parking lots were recommended to actuate group riding by employees. A study of the routes followed by employees to and from the plants would reveal the best location for these lots. They should be designed to provide one-way flow in and out of the area, with separate entrances and exits. All automobiles and bus loading operations should be planned on side streets. A series of signs marked with district numbers or towns and cities should be erected at the checking gate to facilitate loading of vehicles on the return trip.

Plymouth, Mich. opened a free 100-car municipal parking lot back of Main Street stores and planned another of 150-car capacity. The International City Managers Association reported that the cost of land and development was paid from general funds in the 1940-41 and 1941-42 budgets. For 14 hours a day an attendant supervises the lot and a comfort station. Penny parking meters on main

business streets were considered to encourage the use of the free parking lots.

An underground garage, with space to store 1,700 cars and with a park overhead, was built in San Francisco. An extensive signaling system, man lifts, and slide poles facilitated the delivery of cars, so that patrons wait less than two minutes. A staggered floor design eliminated ramps of more than 4½-foot rise between any two adjacent floors. The ventilating system changed the air within the building six times an hour. Fresh air was drawn in by the ramps and the stale air expelled by six fans. There were entrances on each of the four sides of the garage. It can be used as an air raid shelter, emergency hospital, or evacuation center if needed. The city pays \$5,000 in rent and \$13,000 in taxes annually to a non-profit organization. At the end of 25 years the building becomes the property of the city.

In New York City fines for illegal parking were doubled and increased up to \$50 so as to clear the streets for necessary traffic. The Missouri State Highway Department sponsored an extensive series of curb parking studies and established a technique for making them. Taxi cab regulations in several jurisdictions limited the number of cabs, advocated the use of license fees, required bonds and liability insurance, for passenger protection.

Accidents and traffic delays were reduced when traffic officers in the Chicago Park District were stationed in the middle of blocks with signals, where they could control parking, answer questions, and handle intersectional violations. When stationed at intersections they were hampered in their duties by information seekers.

### PARKING METERS

An engineering magazine addressed a questionnaire to a number of city traffic officials listing ten devices commonly used to speed up traffic movement, 69.8 per cent of the officials reporting parking meters the best, or among the best. Parking meters were



## STREET AND HIGHWAY TRAFFIC

found to reduce congestion, and fire departments, taxi cabs, and transit companies are aided in the increased flow of traffic.

Forty-three out of the 92 cities of 100,000 or more population and 251 cities of all sizes use parking meters. Two large cities, after adverse court decisions, removed meters after a trial. Meters were not successful in one California city because the City Council thought they would enforce themselves. Portland, Ore. conducted a survey to learn whether meters actually increased parking turnover. It was found that the average time cars parked was 26.8 minutes; 1.39 cars used each meter space on the average per hour. Nickels were paid by 56 per cent of those parking and 44 per cent parked free. The average parking income was about 2.7 cents per car. Only 5.2 per cent of all cars went over the one-hour limit. Eighty-eight cities were using penny meters. Buffalo, Cleveland, Pittsburgh and Washington, D. C. were the largest cities with meters.

A red hood is placed over the top of parking meters in Madison, Wis., indicating no parking when areas must be kept free for special traffic rushes.

Bridgeport, Conn. merchants reported that parking meters increased sales in the city center. They also reduced the time of officers in court and the cost of court handling because the timing is accurate and violators preferred to pay the fixed fee, avoiding court attendance. The parking meter revenue increased 15 per cent for Elmira, N. Y. during the year. In the first year of operation, Mt. Vernon's parking meters produced \$35,978.26. Schenectady, N. Y. expected to own its parking meters debt free in September 1942. The receipts for June, 1942 totaled \$5,051 for 690 meters.

### SAFETY MEASURES

It was found that 0.85 lumens per square foot on the pavement was ideal illumination as far as traffic fatalities were concerned. Sodium lights drastically reduced night accidents at a railroad crossing on one United States Highway. Adequate street lighting

was deemed essential to the war effort in locations where it will help production and also provide safety for those engaged in the production of necessary material. Long Beach's (Calif.) percentage of night accidents on one of its thoroughfares was 41 per cent of the total. After new lighting it was 20.5 even though traffic increased 20 per cent.

It was found that 13.7 per cent of passenger cars were owned by rural non-farm residents; 15.1 per cent were on farms with 71.2 per cent owned in urban areas. It was also found that 30 per cent of passenger cars on farms were 10 years old or older. Cars nine years old and over drove 61 per cent for necessary purposes, while cars eight years old had 57 per cent, those one and two years old had 55 per cent, and cars of other ages still less.

### STREET AND HIGHWAY PLANNING

Twenty-five years after the adoption of the first tentative street plan for St. Louis, a major street plan was adopted. Five types of streets were deemed necessary—interregional highways, express highways, major streets, secondary streets, and minor streets.

A 15-mile express highway along Chicago's lake front was completed. It carried a huge volume of through north and south traffic between the heart of the city and the area to the north. This provided a through, non-stop route from the Loop district, reduced traffic hazards, and increased transportation facilities.

### GROUP RIDING

From surveys of group riding it was found that factory groups were the first to start swap-rides. War workers consumed only 20 per cent on the average of the total mileage by all residents of a community. Larger stores and office buildings could be treated as factories. Each block of a residential district should be canvassed to secure swap-ride information and groups should be formed. A meeting center should be designated for those persons who live in outlying or sparsely settled areas. Arrange-



## VIII. PUBLIC RESOURCES AND UTILITIES

ments could be promoted by social and service organizations, clubs and churches, etc., for a number of women to use one car to shop and attend to other daily duties, using a different car each day.

### CHANNELIZATION

Some of the war traffic problems which were created by war plants were alleviated by channelization, which aids in safely facilitating many traffic movements. A preliminary simple educational campaign to acquaint drivers and pedestrians with the improvements is necessary. Channelization adapts itself to changing conditions and affords the traffic engineer an opportunity to make economical experiments in the methods of controlling vehicular movement.

### TRAFFIC FATALITIES AND INJURIES

Each of the traffic fatality indices—deaths per 100,000 population, per 100,000,000 vehicle miles, and per 10,000 cars reached low points in 1939, since which date through 1942 each index has shown a progressive increase.

The American Public Works Association reported that a pedestrian walk built between Mineral Wells, Tex. and a new army cantonment under construction reduced traffic fatalities from six deaths to none in two comparable six-week periods. Parking along the travel way was prohibited, traffic signals at peak periods were run manually, and shift schedules were revised to fit traffic peaks. Thirteen thousand vehicles bearing camp construction workers twice a day travelled over this road in addition to normal traffic.

It was reported that soldiers were killed at the rate of 10 per month and 50 injured on Texas streets and highways. Civilians in military service were killed at the rate of seven per month and 52 injured. Records showed that these accidents largely occurred over week-ends while on leave, indicating a tendency to hurry. Only 48 per cent of the deaths involved collisions of motor vehicles.

Other causes were running off roadway, pedestrians, fixed objects, and overturning in roadway. Fifty-three per cent of the fatal accidents occurred from 9 p.m. to 4 a.m. with least traffic density; 70 per cent of the accidents occurred in clear weather.

The reduction in night traffic accidents by the Iowa City Junior Chamber of Commerce enabled them to pay for its new street lighting system. A reduction of 34 per cent in night accidents was brought about by the Cleveland Junior Chamber of Commerce by relighting several heavily travelled thoroughfares and a traffic circle. The Junior Chamber of Commerce in Monett, Mo. reduced night accidents by 30 with the installation of new street lights. The Long Beach, Calif. junior group replaced 483 antiquated street lights which reduced traffic fatalities 13 per cent.

### SPEED CONTROL

Speed studies made by the Federal Works Administrator in 15 states, subsequent to the institution of a national 35-mile-an-hour limit, showed that the average speed of passenger cars on rural highways had been reduced to 37 mph. and that of trucks to 36 mph. The new rates represented reductions from pre-war averages for passenger cars of 9 and 12 mph. in rationed and unrationed areas, respectively. Corresponding reductions for trucks were 4 and 6 mph. The 37 mph. for passenger cars and 36 mph. for trucks today correspond to 68 and 80 mph. in normal times.

The Highway Planning Survey conducted in 1936 revealed 42,863 danger points on Texas highways. The traffic control at these danger spots depended upon effective and economical measures which could be remedied by speed zoning. The Texas speed limit was increased to 60 miles per hour in the daytime and 55 miles per hour at night, but the State Highway Commission was given authority to lower it on sections where lower speeds were necessary. A traffic engineering study of conditions at the danger points was made to determine safe speeds for average weather and

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

normal traffic conditions. Signs were posted to inform drivers of these facts and sufficient personnel was used to enforce these limits. At one section 94 per cent of the motorists noticed the speed signs and were aided by them. After seeing the sign, 24 per

cent drove slower than the posted speed, 70 per cent drove about the same as the posted speed, and 6 per cent drove faster; 90 per cent of the interviewed motorists considered the posted speeds reasonable.

## PERIODICAL PUBLICATIONS

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### *Bus Transportation*

330 West 42nd Street, New York City.

### *Economic Geology*

University of Illinois, Urbana, Ill.

### *Electrical Communication*

67 Broad Street, New York City.

### *Electrical World*

330 West 42nd Street, New York City.

### *Gas Age-Record*

9 East 38th Street, New York City.

### *Journal of the American Water Works Association*

22 East 40th Street, New York City.

### *Journal of Geology*

5750 Ellis Ave., Chicago.

### *National Engineer*

176 W. Adams Street, Chicago.

### *Public Service Magazine*

1012 Pioneer Bldg., St. Paul, Minn.

### *Public Utilities Fortnightly*

1038 Munsey Bldg., Washington, D. C.

### *Public Works*

310 East 45th Street, New York City.

### *Sewage Works Journal*

40 Wall Street, New York City.

### *Transit Journal*

330 West 42nd Street, New York City.

### *Water Works and Sewerage*

155 East 44th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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AMERICAN PLANNING AND CIVIC ASSOCIATION, 901 Union Trust Bldg., Washington, D. C.

AMERICAN PUBLIC UTILITIES BUREAU, 280 Broadway, New York City.

AMERICAN TRANSIT ASSOCIATION, 292 Madison Ave., New York City.

AMERICAN WATER WORKS ASSN., 22 E. 40th St., New York City.

EDISON ELECTRIC INSTITUTE, 420 Lexington Ave., New York City.

INTERNATIONAL ASSN. OF FIRE CHIEFS, Police Headquarters, Philadelphia.

NATIONAL PARKS ASSN., 1512 H St., N.W., Washington, D. C.

PARK ASSN. OF NEW YORK CITY, INC., 295 Madison Ave., New York City.

PUBLIC SERVICE COMMISSION, State Division, 80 Center St., New York City.

## DIVISION IX

### DEFENSE AND ARMAMENT

#### THE UNITED STATES ARMY

BY ROBERT S. THOMAS

MILITARY HISTORIAN, HISTORICAL SECTION, ARMY WAR COLLEGE

In the relatively short span of a year since this subject was last treated here, the United States has become involved in global war. As in 1917, an inexorable series of events terminated this country's aloofness from wars outside its continental borders. On Dec. 7, 1941, Japanese aircraft struck without warning at Pearl Harbor in the Hawaiian Islands; the following day the United States declared war on Japan. Three days later, Dec. 11, Germany and Italy declared war on the United States and this country declared war on those powers. The issue was squarely joined.

#### ARMY ORGANIZATION

During the year 1942 administrative command organization was headed by Henry L. Stimson, Secretary of War, with Robert P. Patterson, Under Secretary of War; John J. McCloy, Assistant Secretary of War; and Robert A. Lovett, Assistant Secretary of War for Air. The military phase of command included General George C. Marshall, Chief of Staff; Lieut. General Lesley J. McNair, in command of Army Ground Forces; Lieut. General Henry H. Arnold, in command of Army Air Forces; and Lieut. General Brehon B. Somervell, in command of the Services of Supply. Army commanders in the United States were: Lieut. General Hugh A. Drum, First; Lieut. General Ben Lear, Second; Lieut. General Walter Krueger, Third; and Lieut. General

John L. DeWitt, Fourth. Service Commands were administered as follows: First, with headquarters in Boston, Mass., Major General Sherman Miles; Second, headquarters in Governors Island, New York, Major General Thomas A. Terry; Third, headquarters in Baltimore, Md., Major General Milton A. Reckord; Fourth, headquarters in Atlanta, Ga., Major General William Bryden; Fifth, headquarters in Columbus, O., Major General Fred C. Wallace; Sixth, headquarters in Chicago, Major General Henry S. Aurand; Seventh, headquarters in Omaha, Neb., Major General Frederick E. Uhl; Eighth, headquarters in San Antonio, Tex., Major General Richard Donovan; Ninth, headquarters in Fort Douglas, Ut., Major General Kenyon A. Joyce.

The Chief of Staff had as assistants: Lieut. General Joseph T. McNarney, Deputy Chief of Staff; Brig. General Miller G. White, G-1; Major General George B. Strong, G-2; Brig. General I. H. Edwards, G-3; Brig. General Raymond G. Moses, G-4; Major General T. T. Handy, Operations Division.

The chiefs of the several arms, services, and departments are: Major General James A. Ulio, Adjutant General's Department; Major General Virgil L. Peterson, Inspector General's Department; Major General Myron C. Cramer, Judge Advocate General's Department; Major General Edmund B. Gregory, Quar-

## THE UNITED STATES ARMY

termaster Corps; Major General James C. Magee, Medical Department; Major General Howard K. Loughry, Finance Department; Major General Eugene Reybold, Corps of Engineers; Major General Levin H. Campbell, Ordnance Department; Major General Dawson Olmstead, Signal Corps; Major General William N. Porter, Chemical Warfare Service; Major General Joseph A. Green, Coast Artillery Corps; Major General Courtney H. Hodges, Infantry.

### REORGANIZATION

The President proposed and effected a complete reorganization of the War Department during the year. On March 2, 1942, War Department Circular No. 59 was issued, naming March 9, 1942, as the effective date of the proposed reorganization. Its purpose was set forth as follows: "The War Department and the Army will be organized so as to provide under the Secretary of War and the Chief of Staff a War Department General Staff, a Ground Force, an Air Force, and a Services of Supply Command, all with headquarters in Washington, D. C., and in addition thereto such number of oversea departments, task forces, base commands, defense commands, commands in theaters of operations, and other commands as may be necessary in the national security."

The three-pronged organization thus provided was headed as follows: Army Air Forces—Lieut. General Henry H. Arnold; Army Ground Forces—Lieut. General Lesley J. McNair; Services of Supply—Lieut. General Brehon B. Somervell. (Four charts showing the original set-up of this plan are obtainable at the U. S. Government Printing Office in Washington.)

### ARMY CLASSIFICATION SYSTEM

In a year replete with outstanding occurrences, there are recorded many interesting items which, by reason of their military significance, can not yet be released. However, some of the many highlights can be published, and are here set forth.

As men pour into the Reception Centers by hundreds of thousands for absorption into the Army, they must be so evaluated as to place them where their best skills are available to their country's service. An Army classification officer usually works on the theory that a man will do the best work in the job most congenial to him. However, he can not always be given the assignment he prefers. Diamond setters and tea tasters find no niche for the exercise of their peculiar talents, nevertheless they can be made into good soldiers. Out of the Labor Department's 8,000 types of employment listed in its *Dictionary of Occupations*, 428 are directly applicable in the Army; therefore, the classification officer studies his prospect's background, his mental and mechanical aptitudes, and his general adaptability. This approach has brought many interesting discoveries to light. Certified public accountants make better mess sergeants than men who have been club stewards in civil life; musicians turn out to be better radio men than confirmed radio "hams"; civilian truck drivers showed a much higher percentage of successful driving after undergoing the Army's training period. For this work, the Army has established a professionally trained corps of experts headed by Dr. Walter V. Bingham, who served as an officer in the Personnel Branch of the General Staff during the First World War.

### HEALTH MEASURES

In September, the War Department made this heartening announcement: "The United States Army in training in this country is in better health than ever before during wartime." Speaking before the Association of Military Surgeons at San Antonio, Tex., Major General James C. Magee, Surgeon General of the Army, stressed the value of the principles taught at the Medical Field Service School, principles whose inculcation made it possible for medical officers to function heroically and efficiently at Pearl Harbor, on Bataan Peninsula, and elsewhere in action.



## IX. DEFENSE AND ARMAMENT

Early in the year, the Medical Department began to vaccinate soldiers against yellow fever. This step is a comparatively recent development in medical science, and our Army's plan of immunization was the first large-scale vaccination against the tropical diseases ever attempted by a military force. Along with this went also the routine protective vaccinations against smallpox, typhoid, paratyphoid, and tetanus.

One of the medical officer's most difficult problems has always been that of combating wound infections. Modern medical science now calls to its aid the sulfa drugs. Every American soldier who goes into a theater of operations is equipped with a package of sulfanilamide tablets, the most effective chemical agent known to modern medical science to prevent infection. In the First World War, nearly 80 per cent of perforating abdominal wounds proved fatal; after Pearl Harbor, virtually all abdominal cases which survived shock to undergo operative treatment with sulfanilamide therapy recovered. This drug stems the danger of immediate infection and is a curative agent if infection has already set in.

The Army general admission rate to hospitals was approximately 10 per cent lower in 1942 than in 1941; total venereal disease rate, on an annual basis, was 40.5 per 1,000 men in 1941, and 38 per 1,000 men for the first six months of 1942; during the First World War, about one meningitis case in three was fatal, but this death rate is now down to one in 20.

Medical field equipment of the highest mobility has been developed—a mobile operating unit to accompany the armored forces; special medical packs for use with parachute troops, for arctic service, and for jungle use; a mobile field X-ray unit; a scientifically planned airplane ambulance to make possible rapid battle area evacuations; and a mobile optical unit, grinding lenses on the battlefield, are some of the modern medical aids available to our soldiers.

There are three large Reception Centers in operation for basic train-

ing of medical inductees—Camp Barkeley, Texas; Camp Pickett, Virginia; and Camp Grant, Illinois. Officer candidates schools and enlisted technicians schools supplement the basic field training of the Medical Field Service School.

### THE WAACS

On May 16, 1942, Mrs. William P. Hobby, of Houston, Tex., was sworn in as Director of the Women's Army Auxiliary Corps. The purpose of this corps, the first of its kind in American military history, is to enlist women volunteers for military service with the Army to replace, and release for combat service, enlisted men engaged on non-combatant duties. This unit, while not a component part of the Army, is the only organization, except the Army Nurse Corps, authorized by law to serve with the armed forces. It may ultimately be expanded to a membership of 150,000.

The first WAAC Training Center was established at Fort Des Moines, Ia. Forty-one officers, two warrant officers, and 191 enlisted men were assigned from the Army to constitute the staff and faculty in addition to a station complement of 30 officers and 300 enlisted men. Out of 30,000 women applicants for officer candidacy, 1,300 women were chosen, 330 were recruited as basic auxiliaries, and 303 officers and 30 auxiliaries were selected from Aircraft Warning Service personnel. Since original plans called for only 440 women officer candidates and 100 auxiliaries, it was necessary to increase the staff and faculty by 138 Army officers and 491 enlisted men. On July 20, 1942, this first WAAC Training Center opened with a four-weeks' basic training course for auxiliaries and a two-months' course for officer candidates. There were graduated 360 auxiliaries on Aug. 15 and 436 officer candidates on Aug. 29. Successive classes have followed regularly, and Fort Des Moines is now equipped to handle new increments of 900 WAACS per week for training. A second training center has been established at Day-

## THE UNITED STATES ARMY

tona Beach, Florida, and a third at Fort Oglethorpe, Georgia.

### RAW MATERIALS—SUBSTITUTIONS AND CONSERVATION

Shortages of many raw materials, kept off the market by reason of submarine interruption to ocean shipping, presented chemists and manufacturers with many difficult and urgent problems. Their solving has been and is a continuing tribute to American ingenuity. The Ordnance Department led in the use of plastic substitutes, fabricating molded pistol grips, slide handles on machine guns, and bayonet handles. The phenolic type of plastic employed withstands long periods of storage, is capable of taking a dull finish, and is impervious to high and low extremes of temperature.

A listing of 125 raw materials as strategic and critical developed many usable substitutions. The Air Corps substituted plastic for aluminum to fabricate pilot's seats in airplanes; steel replaced aluminum in the tank trailers used for refueling at Army airfields as it has also replaced aluminum in mine and bomb fuses. Steel and malleable iron have replaced aluminum in gun carriages and mounts for machine guns. Coated steel has replaced brass in dozens of building items. Cotton-rayon-nylon fabric has replaced silk in cannon powder bags, and nickel has been replaced by plain or coated steel, by wood, or by ceramics. With the disappearance of the formerly abundant coconut shells, chemists were forced to find a new, cheap source of charcoal for soldiers' gas mask canisters. That problem was solved during the year, and today many plants are manufacturing the much needed charcoal from abundant domestic materials.

A new and unusual vein of salvageable copper, nickel, lead, and steel was tapped at Fort Knox, Kentucky, where experimental excavations of the rifle range butts yielded 70 pounds of reclaimable metal per cubic foot of earth moved. The type of mining used was unique. A bull-

dozer scraped the top of the target backstops, cutting down a slice at a time to the lowest level at which spent bullets could be found. The skimmed-off soil was then hydraulically washed and all ferrous metals quickly separated and picked up by magnets.

Even the Army musician helped the cause of raw material conservation since his new bugle is now molded from cellulose acetate plastic. Its tone is reported as superior to the old brass type.

The artillery arm lent its cooperation by changing over from brass to steel cartridge cases, employing a new cold-forging process which turns out cartridge cases in a matter of moments.

On Oct. 21, 1942, Under Secretary of War Patterson authorized the release from military duty of 4,000 experienced miners to resume the mining of ore vital to our fighting forces. A similar action may be necessary for handling of farm products in 1943.

### CONTRACT SAVINGS

In the early days of the war, contractors were asked for the production of war material in the shortest possible time and in enormous quantities. Costs could not be estimated with accuracy and money was wasted. Section 403 of Public Law 528, effective April 28, 1942, provided for renegotiation of contracts and, in the ensuing seven months, savings of \$829,332,800 were effected by such renegotiations.

### ALASKAN COMMUNICATION—THE ALCAN HIGHWAY

Lieut. General Somervell, Commanding General of the Services of Supply, appearing before the House of Representatives Appropriations Committee, outlined his ideas of a necessary four-way means of access to Alaska—by sea, air, road, and railroad. The building of the Alcan Highway by the Engineer Corps in the past year constituted an outstanding engineering feat in the first step towards his goal.

The highway begins at Dawson

## IX. DEFENSE AND ARMAMENT

Creek, British Columbia, just north of Edmonton, runs northwesterly to Whitehorse, in Yukon Territory, then swings west across the Alaskan boundary and thence to Fairbanks. It will function as an important military supply route. Connecting with the railway and highway systems of the United States and southern Canada at Dawson Creek, this pioneer route provides not only an uninterrupted motor highway to Alaska, but serves as a feeder road to important military airfields in Canada.

In the face of physical hardship and privation, the 1,600-mile highway was completed by early December. Speed in building was accomplished through three factors. The first of these was the procedure of initiating construction at various points along the route at the same time, by transporting crews and equipment to strategic locations in March, before the spring break-up of ice and snow made trails and rivers impassable. The second was the employment of aerial surveys, followed by stereoscopic analysis of aerial photographs, and by ground reconnaissance on foot, with pack-horse and dog-train. The third was the use of bulldozers, tractors, and other types of heavy equipment. Powerful bulldozers actually established the primary road by plowing through spruce, jackpine, and aspen as though cutting through a cornfield. Bridge and trestle timbers were felled on the spot and cut up by portable sawmills. In March, the road builders battled winds and temperatures as low as 35 degrees below zero; in July and August they contended with 90-degree temperatures, plus swarms of mosquitoes, deer flies, and other insect pests which necessitated the wearing of gloves and net helmets.

To care for further highway and railroad building and supply maintenance services in western Canada and Alaska, the War Department set up the Northwest Service Command with headquarters at Whitehorse, Yukon Territory, Canada. One of the first duties of this command will be the provision of winter maintenance

of the road, including construction of rest camps, barracks for maintenance troops, along with necessary telephone installations.

In October, the War Department leased the White Pass and Yukon Route, a shortline railway extending from Skagway, Alaska, to Whitehorse, Yukon Territory. Thus there is provided a rail connection between the coast and the Alcan Highway.

### SOLDIER VOTING

On Sept. 17, 1942, Public Law No. 712 was passed providing for soldier voting. Official war ballots were sent to soldier voters by the Secretaries of State in the several states of the Union. After marking his war ballot, the soldier sealed it in an official envelope, swore to it, and mailed it back home where it was deposited with the proper election officials.

### BATTALIONS OF NATIONALS

Three such battalions were authorized for the Army during the year by Secretary of War Stimson. First of these was a Norwegian Battalion authorized in July. Its purpose was to afford citizens of Norway living in this country and likewise Americans who speak the Norwegian language an opportunity to serve together in a homogeneous unit in freeing their homeland and other conquered democracies from Axis domination. In November an Austrian Battalion was authorized, and, in December, a Greek Battalion.

### DOGS FOR DEFENSE

Under the Remount Division of the Quartermaster Corps, an intensive program of dog training was authorized. It is designed to train dogs as sentries, messengers, pack dogs, airplane spotters, and in the attacking of enemy parachute troops. Dogs for Defense, Inc., a private organization of dog fanciers, acts as the Army's procurement agency for dogs needed for training. A four-weeks' training course has been established, and over 200 veterinarians have volunteered their services to keep the animals in good condition. There are sufficient



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precedents to justify the formation of this "Canine Corps": in the First World War they were used to carry messages and hunt for wounded soldiers; in the recent Libyan campaign, the British used dogs to carry ammunition to soldiers on the firing line and first aid packets to the wounded; Russia uses them to drag sleds carrying wounded soldiers; and the Axis powers have used them for some time.

### ORDNANCE

At the outset of the war, an especial and successful effort was made to equip all units with mortars for the use of infantry and armored divisions. Early in January, mass production of 20-mm. aircraft cannon was attained. This automatic weapon fires armor-piercing and high explosive ammunition with machine-gun rapidity. The next weapon to reach mass production was the 105-mm. howitzer, designed as a divisional light artillery weapon, highly mobile on pneumatic tires. An idea of expenditures for ordnance early in the war can be gained from a January 1942 statement which showed an average daily expenditure then of \$20,661,695 or \$717.42 per second. This ordnance material included ammunition, small arms, artillery, tanks, combat vehicles, devices for controlling artillery fire, and pyrotechnics for signalling purposes—a total of some 1,200 different items. The Chief of Ordnance directed officers in charge of the 13 procurement districts of his Department to give small manufacturers every engineering assistance possible in order to fit their plants to manufacture government items.

In March, the United States Army dropped shrapnel shell as an article of ammunition, replacing it with modernized canister shot. Shrapnel, invented in 1784, and used by all nations in the First World War, was discarded as the result of exhaustive tests which revealed its destructive efficiency as being far below that of high explosive shell. Modern canister is a tin can containing 122 balls about

$\frac{3}{8}$ " in diameter. When fired, centrifugal force disintegrates the tin can shortly after it leaves the gun muzzle and the burst of shot is highly effective at ranges of 200 to 400 yards.

In cooperation with the petroleum industry, the Ordnance Department developed lubricants, fuels, hydraulic fluids, recoil oils, and rust preventive compounds which will operate with equal facility in all climates. For this purpose, the "cold rooms" of the petroleum and automotive industries were used, tanks and guns being placed in these laboratory rooms and experiments conducted until oil was developed which would function at all temperatures.

War necessities have produced strange changes in manufacturing plants; automobile manufacturers now make airplanes and aircraft cannon; a former sewing machine manufacturer makes complicated fire-control instruments; and so through a long list of industrial shifts. One by-product of this alignment was the development during the year of co-operative training classes whereby the Ordnance Department, the Services of Supply, and civilian manufacturers worked together to train Ordnance soldiers in repair and maintenance of equipment, thus facilitating repair when damage occurred in the field.

A new development of the year was the amphibious "Jeep," a quarter-ton vehicle capable of going through swamps and jungle undergrowth, or of riding the ocean waves. This vehicle will make 60 miles an hour on land and 10 miles an hour in the water.

### MAIL SERVICE

Seeking to expedite delivery of mail to soldiers, a plan was perfected during the year whereby letters are photographed on motion picture film. Several hundred letters are photographed on a small roll of film. These films can be flown to destination where enlarged photostatic copies are made for the soldier. This saves valuable cargo space and provides faster and safer transportation. By July, V-mail service had been extended on



## IX. DEFENSE AND ARMAMENT

a two-way basis to the United Kingdom, Middle East, Hawaii, and Australia. In the first six weeks of operation, 250,000 letters were filmed and delivered.

Our operations in the North African area constituted the first large-scale test of mobile postal service in war time. By way of previous planning, a complete Army postal organization accompanied the expedition to North Africa, and postal facilities were established almost as soon as landings were effected. Steps were taken to install V-mail apparatus there as well.

During the period Oct. 1-Nov. 15, the Army Postal Service shipped 14,729,680 pounds of Christmas parcels and mail to soldiers overseas. These shipments included 13,545,371 pounds of parcel post and 1,843,308 pounds of letter mail. There were 2,454,946 pieces of parcel post, 51,753,840 ordinary letters, and 14,443,080 air mail letters, constituting the heaviest overseas mail shipments in history.

### MATERIÉL AND EQUIPMENT

An idea of volume in Army purchasing can be gained from the record of one week's purchase of lumber in January, 1942, when 700,000,000 board feet of lumber, along with 240,000 kegs of nails, were bought by the Construction Division, Office, Chief of Engineers. In February, the Quartermaster Corps bought 1,400,000 sleeveless cotton undershirts at an average price of 19.2 cents each. In the first quarter of the year, the Army bought 18,000,000 pounds of seven dehydrated vegetables—potatoes, onions, carrots, cabbages, beets, rutabagas, and sweet potatoes. This type of purchase makes possible the saving of tremendous cargo space since 27,000,000 pounds of potatoes can be reduced to 3,000,000 pounds, a saving of at least 500,000 cubic feet of cargo space. Other concentrated food products in use are powdered soups, eggs, and milk.

In June, 550 camps of the Civilian Conservation Corps, complete with equipment and buildings and total-

ing \$30,000,000 in value, were transferred by the Federal Security Administration to the Services of Supply of the Army. This provided additional troop housing in addition to much road building equipment which was transferred and put to immediate use in building the Alcan Highway. Many of these CCC camps were left intact and used for conscientious objectors of the Selective Service and for Japanese evacuees; others were used in connection with the Civilian Pilot Training Program of the Civil Aeronautics Administration; still others, portable in type, were dismantled and later set up to augment soldier housing at existing camps.

More than 1,500 administrative motor vehicles were replaced with animal-drawn vehicles at Army posts, saving rubber and gasoline. Horses necessary for the change were drawn from the Cavalry, available by reason of mechanization.

For the first time in the history of the United States Army, knee-length trousers were issued to our soldiers. These cotton khaki shorts are similar to those worn by British soldiers in tropical and desert areas.

In August, the Army purchased 880,000 trucks and trailers of various types, spreading the orders in 64 separate contracts with 41 manufacturers. The total cost exceeded \$1,500,000,000. This order specified for conversion to wood bodies as far as possible, thus effecting considerable savings in steel. The Tank-Automotive Center of the Ordnance Department bought 29,000 new cars for the Army in November. These were passenger models of Chevrolet, Ford, and Plymouth cars then in the hands of dealers.

### CHAPLAINS

To meet the demands of current warfare, the Corps of Chaplains was considerably streamlined during the year. Entrance qualifications were modified, and a decentralized administrative set-up, by faiths, was provided. In one month, July, 52,758 church services were held for U. S. troops throughout the world, with a total attendance of 2,557,793. For

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the same period, sacraments were administered on 34,523 occasions with 321,759 participants; a total of 316,103 pastoral and community activities were recorded at which 3,892,798 people were present; chaplains made 40,690 hospital and guardhouse visits during the month; 3,221 marriages were solemnized, 650 babies were baptized, 5,359 professions of faith were heard, and 95,082 testaments and Bibles were distributed.

During the defense of Bataan, American chaplains wrote heroic history for their Corps. Religious services were held at front line positions, in supply bases, and in bombed hospitals. Chaplain Ralph W. D. Brown, Seattle, Wash., who was awarded the Distinguished Service Cross for his service at Bataan, wrote: "Every day here is Sunday when the Chaplain arrives. Days and dates have lost significance." From the enlisted man's viewpoint at Bataan came the incident of that soldier who shared his fox-hole rifle pit with a chaplain, both under heavy fire. Noticing that the soldier was praying as earnestly as he, the chaplain questioned him as to his faith, to receive the now famous reply: "Sir, there are no atheists in fox holes."

### MANEUVERS

In May, a comprehensive plan of maneuvers was prepared stressing air-ground operations, desert fighting, jungle fighting, operations by small task forces, and night maneuvers. Four maneuver areas were designated—the Desert Training Center in the Southwest; the Louisiana Maneuver Area; the Carolina Area, including parts of both North and South Carolina; and the Camp Forrest Area in Tennessee. In so far as the exigencies of actual warfare permitted these maneuvers were carried out.

### ARMY SPECIALIST CORPS

This organization was set up early in the year to admit of entry into the Army of a large number of highly trained specialists not available to the Army through normal means, some being barred by age, some by

minor physical defects. To the time of its absorption in the Army Officer Procurement System on Oct. 31, 1942, the Specialist Corps had reviewed some 300,000 applications. Of this number, about one-third were not eligible for appointment and about 40,000 were duplicates. The remainder were codified for use of the Army Procurement Service. Of the applications received, 30,464 were from academic and vocational teachers; 17,000 from accountants; 17,535 from civil engineers; 28,371 from lawyers; and 32,435 from financial, insurance, and real estate men.

### THE PENTAGON BUILDING

To meet the pressing need for War Department office space, the Corps of Engineers undertook construction in October, 1941, of a huge five-sided structure known as the Pentagon Building. It is located in Arlington, Va., just across the river from Washington, D. C. The building ran six months ahead of construction dates. It required 5,684,000 cubic yards of grading and the pouring of 435,000 cubic yards of concrete. When completed, it will house 40,000 workers. The mile-around, five-story building contains over 16 miles of corridor and has a cubic volume of 90,746,000 feet. To keep it clean requires a force of 700 janitors and charwomen, while its outer protection is assured by 288 civilian and 42 military guards; four cafeterias serve 15,000 meals daily and four more such installations are planned; six beverage bars serve an army of coffee consumers, which, prior to rationing, drank an average of 15,000 cups per day; there is an 18-chair barber shop; an employees' clothing check room; and an emergency infirmary.

### WAR RECORDS

A centralized system for micro-filming, supervising, and disposing of non-current records of the War Department has been established under a central Director of Records, Colonel Thomas M. Spaulding, Adjutant General's Department. This unit is able to reduce an average file drawer

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of records to a reel of film occupying a space 4" x 4" x 1". Many documents which have become fragile through the years are now permanently preserved on films. Upon completion of microfilming 100 tons of Engineer Corps records, it was found that, in addition to the considerable amount of space released, there had been made available 1,000 steel file cases for current records and about three tons of metal file fasteners had been reclaimed.

In the field of current war records, the Historical Section, Army War College, under Brig. General Oliver L. Spaulding, presented and had approved a plan, a few days after the Pearl Harbor attack, for the reception and preparation for publication of military records of our present Army in its world conflicts.

### AVIATION

Early in the year, a number of civilian aircraft owners offered to sell or give their planes to the Government. Through the Defense Supplies Corporation arrangements were made to secure initially 300 such aircraft.

To centralize the task of providing approximately 30,000 new pilots, observers, navigators, and other personnel, a Flying Training Command of the Army Air Corps was established in January, 1942.

The next civilian help to the Army Air Corps came from the commercial airlines of the United States, which, in February, turned over to the Government 25 urgently needed transport airplanes.

An authorization of \$10,000,000 in the Defense Highway Act of 1941 made possible the accomplishment of the "Hanks Plan" for the building of "Flight Strips." As explained by the originator of the idea, Col. Stedman S. Hanks, these strips will furnish dispersal points for aircraft, will alleviate crowding of our main air bases, lessen the risk of large-scale bombing losses caused by excessive concentration of aircraft, and provide hopping-off points for fighter planes along the coast. In addition, commercial aviation will benefit by the existence of

these strips after the war since they will provide landing facilities for commercial feeder airlines connecting points not now served by airlines, in addition to providing safe landing for planes forced down by weather or mechanical difficulties.

Actual construction of these strips requires in most instances little more than widening of highway rights-of-way or use of roadside development areas. Construction was started on the first flight strip in May, the initial project being located in a strategic area on the Atlantic Seaboard. Estimated to require 75 days in construction, it was completed 15 days ahead of schedule and was formally opened on July 1, 1942. It is 8,000 feet long, over 500 feet wide, and has a 7,000-foot long runway, 150 feet wide.

### CONDENSED CHRONOLOGY

The past year witnessed the greatest dispersion of our army and navy forces ever known in our history. Geographical names which had previously been but names to average Americans came to represent actually known places to thousands of our soldiers who stepped from the gang planks of ships or the fuselages of transport planes. The climate range encountered was from bitter cold to sweltering heat.

A condensed chronology of the past year follows; embracing events germane to the progress of the war (naval events are omitted since they are covered elsewhere in this issue).

#### January

1. American forces north and south of Manila unite in Pampanga and Bulacan Provinces preparatory to falling back toward Bataan Peninsula.

2. Japanese occupy Manila and Cavite Naval Base. Twenty-six nations sign a pact in Washington, pledging their united efforts to the defeat of the Axis powers.

3. American-Filipino forces consolidate new positions along Lubao-Dinalupijan-Subic Line; siege of Bataan Peninsula begins.

- 3-6. Forts on Corregidor repulse

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four-day bombing attack by large Japanese air fleet.

6. Japanese bomb areas of Limai, Balanga, and Subic. President Roosevelt sets up arms program—185,000 planes, 120,000 tanks, 55,000 anti-aircraft guns, 18,000,000 tons of ship-  
ping.

8. Japanese bring up reinforcements on Bataan front.

11. Japanese attack on General MacArthur's right flank fails; our aircraft bomb enemy battleship in Gulf of Davao.

13. In Bataan, north of Mount Natib, Americans dislodge Japanese artillery from positions. Donald M. Nelson becomes Chief of War Production Board.

14. Japanese establish advance bases on Mindanao and Jolo.

15. President Roosevelt orders Army enlarged to 3,600,000. Inter-American Conference opens at Rio de Janeiro to unite war effort of the New World.

16. Broad industrial power vested in Donald M. Nelson for war production. With rank of Lieutenant General, William S. Knudsen is appointed Director of Production for the War Department.

17. In Bataan, Japanese attack our right flank.

18. Americans reestablish positions in Bataan.

22. Japanese, employing their entire Fourteenth Army, renew attacks on our left and center in Bataan.

24. Enemy captures several positions on west coast in Bataan.

25. Japanese claim capture of Mt. Natib and Abucay in Bataan. American counter attacks check enemy drive.

27. Japanese claim capture of Balanga in Bataan. United States troops arrive in Northern Ireland, Australia, and in other foreign ports.

28. Inter - American Conference closes at Rio de Janeiro.

30. President Roosevelt signs Price Control Act designed to prevent inflation. By leaflets dropped from airplanes, Japanese commander proposes that Americans on Bataan Peninsula surrender.

31. Sporadic land fighting on Bataan.

### February

1. Strong thrusts against our Bataan positions.

2. Japanese launch heavy attacks on both Bataan flanks—repulsed with heavy loss, many Japanese drowned. American fliers raided air fields at Kuala Lumpur and Kuantin in Malaya.

5. General Hershey, Selective Service Director, estimates 4,000,000 men under arms by Jan. 1, 1943.

6. Japanese gun emplacements on southeast shore of Manila Bay destroyed. Nine enemy transports land heavy reinforcements against Bataan. Emilio Aguinaldo acts as Quisling in petitioning General MacArthur to surrender.

7. President Roosevelt sends message to Generalissimo Chiang Kai-shek pledging full cooperation between United States and China. Enemy bombs harbor defenses of Manila Bay.

9. French liner *Normandie* burns and capsizes at its New York pier.

11. Washington announces arrival of United States troops at Aruba in Netherlands West Indies.

12. Japanese occupy island of Masbate in Philippines.

13. First American reinforcements sent to Far East reported stationed in major cities of Java. In Bataan, Japanese attack their own 122d Regiment, mistaking it for American troops.

14. The third Selective Service registration enrolls 9,000,000 in the United States. Twelve American Army bombers successfully attack enemy shipping in Macassar Straits.

16. Japanese submarine shells oil refinery on Aruba Island—first Axis attack on soil of Western Hemisphere.

17. It is announced that new United States Army of 3,600,000 men will attain its full strength by end of year and will include a 1,000,000-man air force. On Bataan Peninsula, Japanese bomb defenseless village of Cabcaben, a refugee camp. Congress-



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sional Medal of Honor awarded to Sergeant José Calugas, Philippine scout, for bravery in reaching one of our guns which had been put out of action and, while under heavy enemy fire, getting the gun back into action and firing against the enemy.

18. New enemy air units over Bataan. Refugee camp at Cabcaben bombed again by enemy. Army Flying Fortress bombers attack Japanese off Bangka Island, scoring direct hits.

19. Enemy batteries at Cavite concentrate fire on Fort Frank. In Netherland Indies, 16 American Army P-40 pursuit planes intercepted 25 heavy Japanese bombers and two fighter planes over Soerabaja, Java—five enemy bombers and one fighter plane destroyed.

20. Enemy using white phosphorus as filler for incendiary bombs in Bataan.

22. Igorot company wipes out 20th Japanese Infantry Regiment by tank attack through jungle.

23. Our Flying Fortresses attack Jap-held airdrome at Denpasar on Island of Bali, inflicting considerable plane and field damage. Japanese submarine fired 25 rounds of 5" shell at Bankline Oil Refinery near Ellwood, Calif.; damage, slight.

25. Sharp patrol action in Bataan. American P-40 pursuit planes attack Japanese planes in Netherlands Indies, as well as sinking enemy transports off Macassar.

26. In surprise thrust, MacArthur's troops captured a number of the enemy's advance positions in Bataan.

27. American forces in Bataan penetrate to a depth of from  $\frac{1}{2}$  to five miles north of Pilar.

### March

2. Congress passes largest single appropriation for war, \$32,000,000,000.

4. MacArthur's air force made surprise attack on enemy shipping in Subic Bay, inflicting much damage.

8. American artillery cut down Japanese infantry regiment, destroying 29 trucks being used to carry them to battle positions near Abucay. Lieut. General Masaharu Homma reported as having committed hara-kiri

because his numerically superior forces were unable to destroy American and Filipino defenders of Bataan and Corregidor.

10. Lieut. General Stillwell becomes Chief of Staff, Chinese Army, under Chiang Kai-shek. In Bataan, General Tomoywki Yamashita succeeds Homma as Japanese commander. American bombers raid enemy shipping in harbor of Salamaua.

11. Americans again raid Salamaua and Lae from the air, destroying all buildings, damaging runways, and shooting down five enemy planes.

13. Single American plane inflicted heavy damage on grounded aircraft at Rabaul.

14. American fighter planes, on patrol north of Australia, met numerically superior Japanese flight. At a cost of one American plane, one bomber and one fighter Japanese plane were destroyed.

17. After a dramatic escape from Bataan Peninsula by using American mosquito boat flotilla, General MacArthur arrived in Australia to assume command of United Nations forces in the Southwest Pacific. General Jonathan Wainwright remained in command on Bataan Peninsula.

18. Combined Australian and American air forces destroy or damage 23 vessels of a Japanese invasion fleet in raids on Japanese-held New Guinea bases.

19. Generalissimo Chiang Kai-shek places American Lieut. General Joseph W. Stillwell in command of Fifth and Sixth Chinese Armies operating in conjunction with British forces in Burma. In the United States, W. P. B. Chief, Donald Nelson, opposes move in Congress to abolish 40-hour week and overtime pay, claiming it would retard production. In Australia, American heavy bombers raided Japanese airport at Koepang on Island of Timor, scoring hits on runways and damaging installations.

20. Two Flying Fortresses score direct hits on large enemy cruiser in harbor of Rabaul, New Britain Island.

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American bombers sink enemy cruiser in harbor of Rabaul.

21. General Wainwright, in surprise attack, inflicted heavy casualties on Japanese near Zamboanga. In Australia, Lieut. General George H. Brett, U. S. A., appointed to command combined Australian-American air forces operating in Australia.

22. Japanese commander called upon General Wainwright to surrender on Bataan. No reply made. American bombers attacked enemy air field at Lae, destroying 10 Zero fighters and damaging two bombers.

23. Enemy airdrome at Rabaul damaged and two Japanese planes shot down by American aircraft.

24. Enemy bomb Corregidor heavily as well as positions on Bataan Peninsula.

25. Congressional Medal of Honor awarded to General MacArthur. Heavy enemy attacks continue against Corregidor and Bataan.

26. Harbor defenses of Manila Bay again subjected to heavy aerial raids.

27. Dawn until midnight bombing of Corregidor. Sharp ground clashes on Bataan.

28. Continued enemy bombing of Corregidor.

30. In Washington, Pacific Council is created to deal with general progress of the war.

### April

1. In Bataan, major attack by Japanese on our right center repelled with heavy losses to the enemy. Sulu units operating under American flag made surprise attack on Japanese in Zamboanga.

2. Two heavy attacks by Japanese in Bataan prove ineffective. Enemy air bombing of Corregidor continues. American bombers sink Japanese cruiser and transport ship in Bay of Bengal.

3. Japanese make Good Friday attack on Church at Miral in Mindanao. Bombing of Corregidor continues. American bombers raid harbor at Rangoon, damaging dock and port facilities.

4. Furious fighting in Bataan; enemy makes small gains. The

United States recognizes the de Gaulle regime in French Equatorial Africa and in the Cameroons.

5. Japanese attempted landings at Bataan using barges on which 75-mm. guns were mounted—repulsed by American artillery fire.

7. Severe fighting in Bataan with heavy casualties on both sides. Americans seriously outnumbered. Japanese bomb a hospital, inflicting casualties among wounded soldiers.

8. During night, American forces withdraw to previously prepared positions of defense. In the United States, the W. P. B. halts all non-essential building to conserve materials. Chief of Staff, General George C. Marshall, arrives in London for parley.

9. Bataan falls but General Wainwright still holds Corregidor and other harbor ports in Manila Bay. After the four-months' siege on the Bataan Peninsula, from the combined American-Filipino command, 3,000 defenders were evacuated, but more than 30,000 American and Filipino troops became prisoners of war.

13-14. American flight of 13 bombers starting from Australia raid Philippine area striking Nichols Field, Batangas, Cebu, and Davao.

16. Air raids continue against Corregidor. Protected by naval vessels and aircraft, Japanese troops land on Island of Panay near Iloilo and Capiz.

17. American bombers under General Doolittle stage surprise raid on Tokyo, Yokohama, and other Japanese cities. American bombers conduct successful night raid on Rangoon in Burma.

18. Japanese capture Pavia on Panay and Cebu City on Cebu. Bombing of Corregidor continues.

19. General Marshall returns to United States from London mission.

20. Enemy lands near San José de Buenavista, Panay.

23. U. S. plane that participated in the Doolittle raid is reported to have landed at Khabarovsk, Siberia.

25. War Department announces arrival of U. S. troops in New Caledonia.

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27. Major General Charles H. Bonesteel assumed command of United Nations troops in Iceland.

28. Atlantic Coast of U. S. put under dim-out regulations because of U-boat sinkings.

29. Japanese land troops at Cotabato in Mindanao. American bombers blast Rangoon docks and installations.

30. Heavy bombing of Corregidor and Manila Harbor area.

### May

1. Japanese make 12 bombing attacks on Corregidor combined with heavy shelling.

2-3-4-5. Heavy daily bombardment of Corregidor. At midnight of 5/6 Japanese make a landing on Corregidor.

6. Corregidor surrenders. In Burma, American planes attack Mingaladon airdrome near Rangoon, inflicting heavy damage.

7. Thirty-three hours after first successful landing on Corregidor, Japanese at 8 a. m. complete occupation of all fortified islands of Manila harbor.

8. American troops still resisting in the Visayan Islands and on Mindanao.

10. All American-Filipino forces in Philippines surrender.

18. Thousands of U. S. troops equipped with tanks and guns disembark in Northern Ireland.

19. General Doolittle decorated by President Roosevelt for successful raid against Tokyo.

23. General Brereton announced that the U. S. Ferrying Command had been evacuating casualties from Burma, carrying out 4,228 out of a total of 8,616 evacuated. These casualties were produced by the Japanese annihilation of the Chinese Sixth and part of their Fifth Army earlier in the month.

24. Lieut. General Stillwell reaches New Delhi from Burma.

27. Lieut. General Somervell, Chief of the Services of Supply, arrives in London for conference.

30. Molotoff arrives secretly in Washington for conferences with

President Roosevelt as to a second front. Heavy American air raids against enemy at Rangoon and Myitkyina in Burma.

### June

1. President Camacho of Mexico signs declaration putting Mexico at war against Germany, Japan, and Italy.

2. China formally brought into Anglo-American lend-lease structure by signature of a master agreement at Washington.

3. Dutch Harbor, Alaska, attacked by Japanese bombers—damage slight. U. S. House of Representatives passes three resolutions declaring war on Bulgaria, Hungary, and Rumania. American bombers attack installations at Lashio.

4. Senate confirms House resolutions of war against Hungary, Bulgaria, and Rumania.

5. Enemy shipping and docks in Rangoon raided by Brereton's air forces.

6. American's bomb Rangoon from the air.

7. Battle of Midway ends in Japanese defeat; our Army planes co-operated brilliantly with our Navy in this battle.

8. President Roosevelt asks for a new War Department appropriation of \$39,417,827,337, largest in history, and for \$137,018,890 additional for the War Production Board.

9. President Roosevelt announces jointly with Prime Minister Churchill the creation of a combined Production and Resources Board to integrate British and American production and supply problems. Lieut. Generals Somervell, Eisenhower, and Arnold return to U. S. from conferences abroad.

12. Report announces that Japanese have made landings on Attu and Kiska in the Aleutian Group. President Roosevelt initiates a scrap rubber campaign throughout the nation.

13. Additional U. S. troops land in the British Isles.

16. Secretary of the Interior Ickes orders civil officials in Alaska to form an Alaskan War Council to put the

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territory on a war footing for cooperation with the armed forces.

17. President Roosevelt signed Pay Adjustment Bill for our armed services; Philippine Commonwealth admitted to membership in the Pacific War Council.

18. Prime Minister Winston Churchill arrives in Washington for conferences with President Roosevelt. Chunking reveals existence of a United States Army bomber command in China. War Department announces that Army heavy bombers had cooperated with British Fleet and Royal Air Force in a Mediterranean attack which resulted in heavy damage to the Italian Fleet.

22. Maxim Litvinoff, Soviet Ambassador to Washington, asks for establishment of a second front against the enemy.

25. War Department announces formal establishment of a European theater of operations for U. S. forces under command of Lieut. General Dwight D. Eisenhower, with headquarters in London.

27. Eight Nazi saboteurs arrested on Long Island.

30. British and American fliers attack enemy west of Matruh and at Tobruk. Senate passed War Department appropriation bill for \$42,820,000,000.

### July

2. U. S. Headquarters in the Caribbean area announces the arrest of 20 persons as Axis spies.

3. In their last battle under Chinese colors, the American Volunteer Group pilots, familiarly known as the "Flying Tigers," routed Japanese bombers trying to raid Canton-Hankow railway city of Hengyang. Under Brig. General Claire L. Chennault, this unit now becomes a unit of American Air Forces in China.

4. U. S. Army bombers make their first attack on western Europe, attacking German bases in the Netherlands.

5. U. S. flyers pound Japanese airfields around Hankow and Nanchang.

7. Secretary of War Stimson and Secretary of Navy Knox issue joint

order lauding Chinese resistance to Japanese aggression.

8. Military trial of eight Nazi saboteurs begins in Washington, D. C.

11. American planes, alongside of British, support ground force attacks in Egyptian Theater. U. S. planes operating from Indian bases bomb Japanese airfield at Myitkyina. War Department announces U. S. troops now stationed at New Guinea.

16. U. S. closes its consular office in Finland.

17. General Stillwell announces a satisfactory air raid was conducted on Japanese base at Hankow.

18. General Brereton commands U. S. Army Air Forces in Egypt, having transferred from India.

19. General MacArthur reports bombing by Allied air unit of air-drome at Lieta, Solomon Islands.

20. Gen. Stillwell reports successful bombing of Japanese air fields at Canton and Linchwan.

21. Long-range Army bombers attack Japanese at Kiska. Army and Navy aircraft continue to conduct joint operations against Japanese in the western Aleutians. General Stillwell reports sinking of two Japanese vessels near Kiukiang by American bombers. Office of War Information announced U. S. casualties so far as 44,143; of these, 4,801 were listed as dead and 36,000 as missing, mostly taken prisoner by the Japanese.

23. Report made of landing of one of our largest convoys carrying thousands of troops to Britain, including pilots, ground crews, negro troops, a large corps of nurses, other fighting forces, and quantities of matériel.

26. Seven American Air Force pilots participated in raid over northern France.

27. Premier Tojo broadcasts message to his people that "Japan is determined to destroy the United States and Great Britain."

28. British press warns their people of much necessary preparation before a second front can be opened.

29. Command of Aleutian Islands fighting units unified under a naval officer. Japanese still hold three



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westernmost islands of Attu, Kiska, and Agattu.

31. Aerial reconnaissance fails to reveal any Japanese in the Pribilof Islands; 10,000 estimated to be on westerly islands of the Aleutian chain. American planes intercept and turn back a force of Japanese bombers seeking to attack Hengyang airfield. European countries under Axis domination appeal to President Roosevelt relative to German barbarism and inhuman treatment.

### August

1. General Stillwell's air forces shoot down nine new-type Japanese Zero planes over Hengyang. U. S. signs agreement to furnish market for six important Brazilian products of value to war economy.

2. Combined Allied units bomb enemy cruiser south of Amboina; in Gona, New Guinea, enemy installations come under day and night raids; at Guadalcanal in the Solomons, Allied units effectively raided enemy installations at Kukum.

3. At Gona six Japanese aircraft shot down; enemy outpost groups dispersed in jungle fighting on Kokoda; airdrome at Lae bombed. Over Hengyang, large Japanese air force loses battle to Stillwell's forces.

4. After U. S. army bombers had thrown the enemy into panic, Chinese storm west and south gates of Linchwan (also known as Fuchow).

5. American planes shoot down two enemy aircraft over Kweilin, Kwangsi Province.

6. Under lend-lease policy, President Roosevelt transferred a submarine chaser to Queen Wilhelmina of the Netherlands.

7. American bombers destroy ten enemy aircraft at the Tienho airdrome near Canton. Our Office of War Information claims that June production of planes, tanks, artillery, and anti-submarine craft is falling behind schedule.

8. Combined Army and Navy attack against enemy installations in southeast Solomon Islands. U. S. bombers, cooperating with Navy, inflict serious damage on enemy convoy

in Middle East sector. Laval announced that Vichy regime would maintain a hands-off policy if United Nations' forces landed in France.

10. Southeast Solomons under combined Army and Navy attack. In New Guinea, bombers attack installations at Salamaua, at Lae, and at Buna-Kokoda. At New Britain, a successful night attack on Rabaul and in the Solomons a successful night attack against the Buka airfield.

10. Major General Spaatz, commander of U. S. Air Forces, announces that American planes would soon join the R. A. F. in bombing German cities.

11. Allied ground forces compel enemy withdrawal in Kokoda, New Guinea, and in Rabaul, New Britain, airdromes are bombed in night attacks. U. S. planes bomb Hankow and vicinity.

12. Allied bombers attack enemy shipping near Timor Island; wharves at Toeal bombed; seven enemy planes shot down over southeastern New Guinea; successful raid on airdrome at Rabaul. American planes bomb Japanese airdrome at Nanchang.

13. In Banda Sea, Allied bombers attack enemy shipping; at Rabaul, heavy bombers destroy 15,000-ton vessel, as well as several smaller craft.

14. Five of six Zero planes hit in fight with Allied bombers over New Britain; in the Solomons, U. S. Army and Allied shore-based aircraft continue to attack Japanese air bases and ship concentrations. Operating from India, U. S. Air Forces rendered airdrome at Myitkyina useless and also struck hard blows at communications between that point and Mandalay.

15. Two Zero planes shot down in New Britain area. Lieut. General Arnold announced that 1,010 U. S. Army planes had engaged in combat with 1,459 Japanese planes since the war began and had destroyed 190, with United States losses at 104.

16. U. S. Army planes accompanied Canadian and Royal Air Force planes on sweep over France and participated in R. A. F. convoy patrols and interception parties.

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17. At Timor our bombers attacked enemy-held town with good effect. U. S. Flying Fortress crews bombed railway yards at Rouen, France, while U. S. pilots flying American bombers and British Spitfires attacked other targets in occupied France—bombers were led personally by our General Eaker. In the United States, the Senate completed action on bill to permit immediate payment of allowances to dependents of service men.

18. Allied aircraft on offensive reconnaissance bombed township of Kavieng, Bismarck Archipelago. Widespread anti-Axis demonstrations in Rio de Janeiro.

19. Allied plane dropped bombs on airdrome at Kavieng. Commando Force made raid on Dieppe on the French coast, U. S. troops participating for the first time in a raid on the Continent. Twenty-three U. S. Flying Fortresses set great fires and destroyed hangars and runways at German fighter plane base at Abbeville. U. S. soldiers participating were Rangers, especially picked for training with British Commandos. Casualties heavy on both sides.

20. Allied bombers attacked town on Timor.

21. U. S. medium bombers raided Maobisse on Timor. American Flying Fortresses defeat enemy air formation in fight over North Sea.

22. Brazil declares war on Germany and Italy.

23. Allied air units continue attacks on Lae and Rabaul. A convoy of record size arrived in the British Isles carrying U. S. Air Force personnel, planes, fighting units, and vast quantities of matériel.

24. Allied interceptor planes turn back Japanese planes in attempted raid over Darwin, Australia; Allied aircraft also bomb enemy buildings and wharf area at Buks Passage in the Solomons. Vichy protests American raid of preceding week on Rouen. Brazil closes German and Italian banks within her borders and seizes all shipping of these two nations in her waters.

25. Air and ground fighting continues at Darwin, Kokoda, and Ra-

baul, with Japanese uniformly unsuccessful.

26. Allied planes bomb Timor, the Rabaul-Gasmata Area, and Buna, destroying enemy planes and installations.

27. Japanese forces seem to have withdrawn from vicinity of our positions in the Tulagi area in the Solomons. American bombers raided Lashio, Burma, destroying several enemy planes. U. S. Flying Fortresses bombed shipyards at Rotterdam.

28. Allied bombers successfully raid Buna airdrome. Along Milne Bay, ground force action is developing. American planes bombed airplane factory at Meaulte and engaged in sweeps over St. Omer and Etretat.

30. Allied planes cooperating with ground forces in Kokoda area, in Lae-Salamaua area, and at Buna.

31. American bombers reported as having effectively attacked Lashio in northern Burma, concentrating on airport and warehouse area.

### September

1. Air and ground forces cooperating in actions in Kokoda; at Milne Bay, land forces are mopping up scattered enemy units in jungle fighting. American bombers attack Japanese installations at Myitkynia in northern Burma.

2. In London, U. S. soldiers and marines paraded to Lord Mayor's luncheon at Guildhall. Assistant Secretary of War McCloy discloses that American flyers had better than two-to-one margin in Pacific air duel and that more than 500,000 American troops are now abroad. President Roosevelt announces that a technical mission will be sent to Brazil to help that country in its war program.

3. Continued jungle fighting at Milne Bay; Allied bombers continue strafing of Lae, Kokoda, and Buka.

4. Reconnaissance flights and bombing raids continue in the Australian and South Pacific theaters. General Stillwell's fighters report destruction of military headquarters and damaging of warehouses at Nanchang; the sinking of 23 junks and sailboats loaded with troops on Poy-

## IX. DEFENSE AND ARMAMENT

ang Lake, in addition to the wrecking of a troop train and sinking of seven small steamers and a motor boat at Hankow.

6. At Buna, Allied planes carried out three destructive raids on enemy airdrome; at Milne Bay, ground forces, supported from the air, engaged in destroying remnants of enemy guerilla forces. U. S. Army Air Forces successfully attack shipping facilities and power station at Candia Bay. U. S. Flying Fortresses attack targets in northern France, including installations near Abbeville, Meaulte, and St. Omer.

7. Kokoda—in cooperation with ground forces, Allied fighter units executed three bombing and strafing attacks on enemy positions. President Roosevelt sends ultimatum to Congress to take action to curb inflation before Oct. 1 or he will do so by executive action.

8. At Myola, enemy forces Allied troops back slightly. U. S. planes drop bombs on Bhamo and Katha in Burmese Theater. In cooperation with the R. A. F., American flyers effectively attack targets in the Suda Bay, Crete, area. White House discloses that necessary military decisions regarding a second front had been made at a ten-day London conference in July. President Roosevelt represented at the conference by General Marshall, Admiral King, and Harry Hopkins. In reply to Laval's further protest of American bombing, he was informed that American bombers would continue to bomb German military property in France and plants working for Germany at every opportunity. U. S. troops announced as having arrived at Leopoldville in the Belgian Congo.

9. In Australian theater and South Pacific, continued Allied air and ground fighting at Normandy Island, Trobriand Islands, Kokoda, Myola, Buna, Mubo, and Milne Bay. With consent of the Government of Ecuador, United States acquires a base on the Galapagos Islands. Brig. General Walter B. Smith named as Chief of Staff to Lieut. General Dwight D. Eisenhower in European theater.

10. Enemy makes new and successful attack in Owen Stanley Mountain Range area in vicinity of Myola. Allied air attack helping Australian resistance.

11. Bitter fighting continues in Owen Stanley area.

12. Japanese continue to try to dislodge combined American forces from Guadalcanal-Tulagi area of the Solomons.

14. In Australian Theater and South Pacific, Allied forces attack cargo vessels off Seloe Island; at New Britain, Allied bombers attack an enemy cruiser; and at Lae, Allied bombers twice attacked enemy airdromes. Patrol activity in the Owen Stanley area.

15. Allied air units continue low-level attacks on enemy positions in the Owen Stanley area. American heavy and medium bombers, supporting British Eighth Army, carried out extensive operations against port facilities, airdromes, and other installations at Bengazi and Tobruk. William M. Jeffers, President of Union Pacific Railroad, named U. S. rubber administrator to conduct program of rubber conservation for Army use.

16. Army bombers strafe Kiska harbor with severe damage and heavy casualties to Japanese. President Roosevelt presents a submarine chaser to the Norwegian Navy.

17. Serious fighting in Owen Stanley area; Allied bombers raided dispersal areas at Buka. A single, medium U. S. bomber attacked a railway junction north of Katha in the Burmese Theater. Senate passes bill authorizing reduction of West Point course to three years.

18. Secretary of State Hull demands of Tokyo whether Japan intends to guarantee treatment of war prisoners reciprocal with that granted Japanese in U. S.

20. Allied bombers continue heavy raids on enemy in New Guinea.

22. Airfield at Tingka and airplane factory at Loiwing reported bombed by U. S. aircraft, as well as raids against enemy barracks at Namkhan and shipping at Katha.

25. Army bombers reported ac-

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tively bombing Gizo Island, enemy installations at Rekata Bay and Shortland Island, doing much damage to enemy transports and planes. Roosevelt praises American shipyards for success of "Victory Fleet" program to date. American bombers raid Gai Lam airdrome at Hanoi.

26. General Stillwell's Air Forces strafe Japanese truck columns on road between Lungling and Chefang in southwest Yunnan.

28. From Sept. 25 to 28, U. S. Army, Navy, and Marine Corps planes, operating from Guadalcanal and Florida Islands in the Solomons, destroyed 42 enemy aircraft. In Chinese theater, U. S. bombers blasted Japanese bases and lines of communications in Yunnan Province. Accompanied by Royal Canadian Air Force planes, U. S. Army bombers blast Japanese shore installations and ships at Kiska in the Aleutian Islands.

29. Donald Nelson announces munitions output in August 8 per cent better than in July but 14 per cent behind forecasts.

30. In Owen Stanley area, Allied troops force Japanese withdrawal. Air activity continues over Salamaua.

### October

2. Strong U. S. Air Forces attack northern France, striking at Meaulte, St. Omer, and Le Havre.

3. In Solomons, Allied fighters carry out a sweep along Kokoda track. In Owen Stanley area, our forward elements push forward to Efogi. American bomber based in India attacked buildings at Tingka air base and airport buildings at Lowing Field.

4. Premier Joseph Stalin of Russia urges opening of a second front.

5. Army bombers still active in Guadalcanal area.

8. In Chinese theater, American planes bomb railway bridge south of Mogaung; Japanese barracks near Loiwing; suspension bridge south of Tingka; and vessels on river north of Katha.

9. More than 100 U. S. Flying Fortresses and Liberators took part in a high-level daylight attack upon

German-held industrial plants at Lille, France.

10. Allied bombers struck enemy's supply base at Rabaul with largest raid yet made in the South Pacific, dropping 60 tons of explosives and scoring direct hits on jetties, machine shops, supply dumps, barracks, anti-aircraft and searchlight positions.

11. U. S. Flying Fortresses and Liberators destroy 48 enemy aircraft in previous day's raid over Lille. Thousands of U. S. soldiers, with invasion equipment, arrive in Britain.

12. President Roosevelt recommends draft of 18-19-year old youths.

13. Heavy bombers strike against Japanese at Kiska, damage inflicted on ships in harbor and on shore installations.

14. Japanese land fresh troops on Guadalcanal.

15. Army bombers strike airfields on Buka and damage ships at Buin, in Guadalcanal area. U. S. Army troops fighting alongside of Marines in ground actions in this area.

16. Aircraft of U. S. Army China Air Task Force raid Lashio City and airdrome with good effect. Army long-range bombers drop tons of demolition bombs on Kiska camp area.

17. Enemy withdrawing in Owen Stanley area. Our bombers set fire to enemy transport west of New Georgia Island. U. S. Army aircraft attack Bengazi shipping and also bomb Daba landing field. In North Pacific Army bombers damage enemy cargo ship in Gertrude Cove, south side of Kiska Island. North of Kiska two Japanese destroyers hit by our bombers and one probably sunk. Arrival of U. S. troops in Liberia announced.

18. U. S. planes attack Japanese airfields on Guadalcanal, destroying 14 bombers and eight fighter planes.

19. U. S. Liberator planes attack Japanese camp area at Kiska. Flying Fortresses bomb Rekata Bay in the Solomons.

21. In coordinated attacks with R. A. F. in the Egyptian Theater, our planes helped to destroy five enemy fighter planes and one Junkers "88."

23. U. S. China Air Force inflicted serious damage upon Japanese-oper-



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ated Linsi mine near Kuyeh, 75 miles northeast of Tientsin.

24. In Burmese theater, our aircraft bomb railway stations north of Mohnyin, railway equipment between Myitkynia and Mogaung, and enemy barracks at Lonkin.

25. Our airfields at Guadalcanal under heavy attack.

26. Allied heavy bombers bomb enemy shipping at Rabaul inflicting considerable damage. American planes successfully attack docks and shipping in Hong Kong-Kow Loon Area. A major air-land-sea attack on Japanese in Guadalcanal area opened by Americans. Kiska raided two days in succession by Army Flying Fortresses.

27. At home, Joseph C. Grew, former U. S. Ambassador to Japan, warns the United States against regarding Japan as an easy "pushover."

28. American planes cooperating in fighting over Matruh.

29. China Air Force under Stillwell executes successful attack on Japanese airdrome at Lashio. U. S. fighter planes attack canal barges in Belgium.

31. General Marshall informs public that our forces overseas now total about 800,000.

### November

2. Allied troops capture Kokoda and American troops attack westward in Guadalcanal area.

7. U. S. Army, Navy, and Air Forces begin landing operations at points on the shores of North Africa. In New Guinea, American air-borne troops transported from Australia penetrate central and northern Papua to vicinity of Buna.

8. U. S. assault troops land simultaneously on beaches in the vicinity of Casablanca, Morocco, on the west coast, and in the area of Oran, and farther east near Algiers, on the north coast. Stiff resistance near Oran.

9. At Algiers, land operations stop during armistice negotiations. Americans capture Oran. Saffi, Fedhali, and Mehdiya in American hands. U. S. severs diplomatic relations with Vichy.

10. French forces in Casablanca

area capitulate. Oran welcomes American troops. Admiral Darlan a potent factor in urging French to cease hostilities against Americans. In Guadalcanal area, U. S. troops continue offensive operations.

11. American positions being consolidated in North Africa. American and British troops nearing Tunisian border.

12. American-British forces cross Tunisian border. At home, Congress adopts youth draft bill for ages 18 and 19.

14. Allied and German troops clash at Bizerte. Admiral Darlan, supported by Gen. Eisenhower, assumes administrative power. In New Guinea area, enemy driven from Ilinow and Wairofu.

15. Small French military units begin to cooperate with Allied tank forces. Allied aircraft attack Tunis. In New Guinea area, Gen. MacArthur takes the field—Australians and Americans ready to attack near Buna.

16. Allied forces advancing towards Bizerte, Tunis, and south-central Tunisia.

17. Allied advance elements enter Tunisia at several points. Allied bombers attack Tunis airdrome.

19. Allied advance elements in Tunisia repel enemy tank thrusts and bombers attack Bizerte and Tunis airdromes.

20. Patrol encounters in Tunisia.

21. Allied planes continue to bomb Bizerte and Tunis.

22. Concentration of British and U. S. troops on Tunisian front continues. In Buna-Gona area of New Guinea, Australian and American troops close in on enemy.

23. Local encounters on Tunisian front.

25. Bizerte heavily bombed. Heavy fighting in Buna-Gona area of New Guinea.

27. Allied forces repulse enemy counterattack at Tebourba in Tunisia.

28. Allied forces in Tunisia occupied Djedeida Coq northeast of Tebourba.

29. Fighting continued near Djedeida. Raids on Bizerte and Tunisia.

30. Allied forward units maintain-

## THE UNITED STATES ARMY

ing strong pressure on enemy near Mateur and Djedeida. Heavy ground fighting in Buna area of New Guinea.

### December

1. Admiral Darlan assumes authority as Chief of State in French Africa. U. S. Tenth Air Force attacks Japanese installations at Rangoon and score direct hit on a naval auxiliary vessel at Port Blair, Andaman Islands. In North Africa, Bizerte, Gabes, and Sfax bombed by Allied planes.

2. Ground and air forces closing in on enemy at Buna-Gona. Joint Australian-American force moves against Sananda. In North Africa, an enemy counterattack near Tebourba repulsed. Day and night raids on docks and airdromes at Bizerte and at Tunis.

4. Enemy resisting stubbornly in New Guinea area. In North Africa, Allies consolidate positions near Tebourba; at Bizerte, docks are bombed day and night; at Tunis an airfield raided. At home, President Roosevelt orders abolition of W. P. A., turning floating personnel into industrial channels of employment.

5. Heavy fighting near Tebourba. U. S. bombers launch first American attack on Italian soil, bombing city and harbor of Naples. At home, induction of men over 38 is halted; Manpower Commission created with near-dictatorial authority over disposal of all workers in all occupations.

6. U. S. bombers make heavy night attack on Kavieng airdrome in New Guinea area; five enemy bases destroyed on Guadalcanal Island by Army and Marine Corps patrols. Continued air activity in North Africa against Bizerte and Tunis. British and American bombers attack Lille locomotive works and Abbeville airfield in France.

7. Heavy fighting, involving armored forces, in vicinity of Tebourba.

8. Heavy counterattacks delivered by our armored forces at Tebourba. President Roosevelt announced 50,000 patents owned by nationals of enemy or enemy-occupied countries seized for use in our war effort.

9. Patrol activity only in North African theater. In New Guinea area, 10 Japanese fighter planes shot down.

11. Counterattack by enemy in Buna fails.

12. Heavy U. S. bombers successfully attack Rangoon and Port Blair.

13. In New Guinea area Allied forces pour continuous torrent of artillery into Japanese positions at Buna. In North Africa, the harbors of Tunis, Bizerte, and Sousse heavily bombed.

14. Allied forces split Japanese forces in Buna. Allied flyers in North Africa bomb installations at Tunis, Bizerte, Sousse, and Sfax.

15. Enemy falls back on line near Medjez-el Bab. American and British airmen make heavy attacks on Bizerte, Tunis, Sfax, and Gabes.

16. Axis forces withdraw from some positions in Tunisia.

17. Docks at Tunis and La Goulette again heavily attacked by Allied bombers.

18. Ground and air force fighting continues in New Guinea area. U. S. Air Forces bomb Tengyueh and airdrome at Hanoi. In North Africa, bombing of Bizerte, Tunis, and Gabes.

19. Army Flying Fortresses carry out two bombing attacks against enemy installations in Munda area of New Georgia Island. Allied planes score hit on enemy warship in Bizerte Harbor and on air field at Mateur.

20. In northern and central Tunisia, Allies consolidate positions. British-American air force attack enemy air park and air field at Romilly-sur-Seine.

21. Enemy raid beaten off in forward position at Tunisia. Enemy's position in New Guinea deteriorating. Continued air activity over Tunisia.

22. Enemy loses important airdrome strip in New Guinea area. Ports of Tunis and La Goulette bombed by Allied aircraft and many fires started. In North Pacific sector our planes bomb Japanese on Kiska Island.

23. U. S. planes continue heavy bombing raids on Rangoon and Central Burma. In North Africa, ship-

## IX. DEFENSE AND ARMAMENT

ping at anchor in Tunis Harbor subjected to great damage by Allied bombers.

24. Tenth U. S. Air Force attacks Japanese installations at Maingkwan in Northern Burma. In North Africa, enemy driven from heights dominating Medjez-el Bab. Admiral Darlan assassinated.

25. Smashing air blows delivered in the Solomons—Allies practically control all of Buna main airdrome.

26. Flight of Army Flying Fortresses from airfield at Guadalcanal bomb enemy shipping in Rabaul Harbor. Allied aircraft attack enemy troops at Sfax and Gabes in North Africa.

27. Bizerte and Sfax bombed by our Flying Fortresses.

28. Ground patrol fighting and air bombing continues over Tebourba and Bizerte.

29. Docks and harbors at Sousse under air attack; ground fighting near Medjez-el Bab. General Giraud chosen as Admiral Darlan's successor. Lashio in Burma bombed by our planes.

30. Roads leading from Tunis were bombed. Attack also made on Sousse. Japanese counterattacks fail in Buna area.

31. Docks and railroads at Sfax

bombed. Light bombers attack Gabes. U. S. Bombers pound German submarine base at Lorient, France.

### DISTRIBUTION OF U. S. FORCES OVERSEAS

When a year of global warfare ended for the United States at midnight, Dec. 6, 1942, it found approximately 1,000,000 U. S. troops scattered among 65 countries and islands, viz.: Northern Island; England; French Morocco; Algeria; Tunisia; Freetown; Liberia; Gold Coast; Nigeria; Cabon; French Equatorial Africa; Belgian Congo; Chad; Anglo-Egyptian Sudan; Eritrea; Egypt; Palestine; Syria; Iraq; Iran; India; China; Philippines; Australia; New Guinea; Solomons; New Hebrides; New Caledonia; New Zealand; Fiji; Samoa; Canton Island; Palmyra Island; Johnston Island; Hawaii; Midway; Aleutians; Alaska; Guatemala; Nicaragua; Costa Rica; Canal Zone; Galapagos Islands; Santa Elena, Ecuador; Aruba; Curacao; Trinidad; Venezuela; British Guiana; Surinam; Brazil; St. Lucia; Antigua; Virgin Islands; Puerto Rico; Haiti; Jamaica; Cuba; Bahamas; Bermuda; Canada; Newfoundland; Labrador; Greenland; Iceland.

## NAVAL CONSTRUCTION AND EQUIPMENT

BY JOHN C. NIEDERMAIR

BUREAU OF SHIPS, NAVY DEPARTMENT

### CONSTRUCTION FACTOR IN WAR OF ATTRITION

Accelerated naval construction was the natural and only answer to Pearl Harbor which started a war of attrition resulting in the loss of many important naval units. Secretary of the Navy Frank Knox summed up the result of the year's effort in an article in the *Army and Navy Journal* on Dec. 7 in which he asserted that the time was actually close when the Japanese forces in the occupied islands of the Pacific would suffer for lack of replacements in manpower, weapons,

ammunition, and medical supplies, and for the lack of ships to transport them. This situation was largely due to the war of attrition waged during the last 12 months by American submarines in the western Pacific. Against the attrition suffered by Japan, whose replacement rate is less than that of the United States, Secretary Knox stated that our own shipyards were launching naval vessels at constantly accelerating rates, which had already provided a far larger, harder-hitting, and faster fleet than we had on Dec. 7, 1941. Submarine

## NAVAL CONSTRUCTION AND EQUIPMENT

construction time had been cut since Pearl Harbor by four months and three days; a battleship had been put into commission seven months ahead of schedule; destroyers were being produced in little more than half the time it took in 1940, and the latest aircraft carrier sent to sea was built in half the time, plus four days, required to build her predecessor.

### EXPANSION OF CONSTRUCTION PROGRAM

The construction program for ships and yards in which to build them called for constantly increasing appropriations as the demands for ships and more ships were brought to light.

On Dec. 23, 1941 President Roosevelt signed the bill authorizing a 150,000-ton increase in the size of the United States Navy, as Congress and Federal agencies took further steps to speed American defense preparations both in outlying American possessions and within the continental United States. In an effort to facilitate defense of American Pacific possessions, the Navy Department asked Congress for legislation to empower President Roosevelt to exercise full administrative control over Philippine waters. The additional shipbuilding was to be made up of aircraft carriers, destroyers, and submarines, no reference was made as to the possible numbers.

### NAVAL CONTRACTS

The Navy Department on Jan. 24 awarded contracts for over \$300,000,000 of war material to the General Motors Corporation. These contracts were in addition to contracts previously placed with the automotive industry. It was expected that this work not only would utilize a major portion of the personnel and facilities of the various plants of the General Motors, but in addition the personnel and facilities of many other plants which had been engaged in automotive production would be employed on similar work.

### GOVERNMENT SHIPYARDS

Early in the year legal steps were

initiated to take over 140 acres of land near the Fore River Yard of the Bethlehem Steel Company for the erection of a shipyard for the Navy Department to be operated by the Bethlehem Shipbuilding Division. There were to be 16 ways in operation, and by mass production of one type of war vessel the plant is expected to turn out 60 ships a year. The plant is not to be a permanent installation but is to accomplish the work done in the last war at the Squantum Yard, now the site of the Naval Aviation Training School. This earlier plant was also built by the Navy Department and operated by Bethlehem. The United States Navy also announced on Jan. 24, 1942 that it would purchase the old Submarine Boat Corporation Yard at Port Newark, N. J. and would spend \$12,000,000 in converting it into a modern steel shipyard. The plant was to be purchased from the Port of New York Authority at a "properly appraised price" and was owned by the Navy, but will be operated for the Navy by the Federal Shipbuilding and Dry Dock Company, Kearny, N. J., a subsidiary of the United States Steel Corporation. The Yard was to be completed by about Sept. 1, 1942.

### GOVERNMENT SHIP ORDERS

In a January review concerning a description of the Navy Supervisor's Office at Fore River, it was noted that according to the then latest figures issued by the Office of Production Management, the Fore River Yard of the Bethlehem Shipbuilding Division had \$600,000,000 in ship orders, the New York Shipbuilding Company had \$500,000,000 worth of contracts, and the Newport News Shipbuilding and Dry Dock Company had \$390,000,000. At that time the Fore River Yard plant expansion program totaled in excess of \$15,000,000.

### NAVAL APPROPRIATIONS AND EXPENDITURES

The \$26,500,000,000 naval appropriation bill was signed by President Roosevelt on Feb. 9. The bill made



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\$8,000,000,000 available for the construction of war vessels ranging from battleships to torpedo boats and another \$5,000,000,000 for guns and ammunition for the entire naval establishment. In addition the bill authorized the President to lend or lease any of 1,799 small vessels, for which about \$3,900,000,000 was appropriated, as well as any other naval equipment up to a total of \$2,500,000,000. The President signed a bill authorizing the Secretary of the Navy to spend \$750,000,000 for facilities to build 1,799 minor combatant auxiliary and patrol vessels. The President also signed legislation authorizing the expenditure of \$450,000,000 for the establishment and development of naval shore facilities.

About this time the Navy Department requested the Newport News Shipbuilding and Dry Dock Company to build and operate a new yard, the James River Shipbuilding Corporation. The facilities, involving expenditures of \$20,000,000, were to be built for the account of the Navy Department and contracts covering the construction of vessels were to be of the cost plus fixed fee type. The Bureau of Yards and Docks, Navy Department, awarded a contract early in February for the construction of a floating dry dock at Bombay, India at a total estimated cost of \$3,700,000.

### ALL-NAVY "E" PRODUCTION AWARDS

In order to keep up the necessary sustained drive to get ships built in record time various forms of incentives were organized early in the year. The Navy Department reorganized its method of awarding the official "E" in recognition of outstanding work done incident to the National Defense and War Effort. Instead of individual awards by the Bureaus of the Navy Department, the industry is honored by an All-Navy "E" award which entitles the industry to fly the Navy "E" flag for six months and entitles the employees to wear the Navy "E" insignia. In order to retain this honor position, the industry

is reviewed at six months intervals to determine upon the continuous meritorious work done, and a chevron stripe is awarded for each additional six months' of honor effort. In the alternative, it is possible for the industry to lose the flag and the worker to be deprived of the "E" insignia.

Ships in every class have been finished many weeks and months ahead of schedule. The individual managements have used various means to build up the spirit of their organization. Wage incentives alone, such as extra overtime pay, have not always furnished the driving power required for a sustained effort, but appeals to the individual worker's patriotism has produced outstanding results. Battleships, cruisers, destroyers, and other navy types have been delivered and put into commission in large numbers during the year. To do this effectively has required, not only the efforts of the old line yards, but the help of many industries throughout the entire nation. Many inland concerns have turned their plants into war production for the Navy. On the Great Lakes, the Mississippi, the Gulf of Mexico, and at many plants, without direct access to the sea, sub-assemblies and auxiliaries have been built for shipment to the major points of assembly into main propulsion units and ships' hulls.

### NEW SHORE FACILITIES

President Roosevelt on April 29 signed the legislation authorizing the Navy to undertake construction of new shore facilities at a total maximum cost of \$800,000,000. The tentative allocations of this sum were approximately as follows: Fleet Facilities, \$4,000,000; aviation facilities, \$168,780,000; lighter-than-air program, \$25,000,000; storage facilities, \$119,000,000; liquid fuel storage, \$100,000,000; Marine Corps training facilities, \$150,000,000; personnel training and housing facilities, \$100,000,000; hospital and dispensary facilities, \$40,500,000; shore radio facilities, \$11,000,000; naval research laboratory, \$720,000; miscellaneous structures, \$25,000,000; and a floating dry

## NAVAL CONSTRUCTION AND EQUIPMENT

dock program costing \$36,000,000. During April the Navy Department awarded numerous contracts but one of particular note, because it is indicative of manner in which the construction of Naval vessels has been spread throughout the land, was the contract to build steel submarine chasers at a cost of \$60,000,000 in a shipyard at Chicago to be erected by a car manufacturing company with \$4,300,000 provided by the Navy Department.

### PROVISIONS OF THE NAVAL EXPANSION BILL

The Senate on June 26 by a voice vote passed and sent to the White House the Naval Expansion bill, which was signed by President Roosevelt on July 10, authorizing the construction of 1,900,000 tons of additional combatant vessels and 1,200,000 tons of auxiliary vessels for the Navy Department at an estimated cost of \$8,550,000,000. These tonnage figures will raise the combatant ship tonnage of the Navy to 5,649,480, a figure in excess of the combined navies of the rest of the world. Included in the new tonnage are 500,000 tons of aircraft carriers, 500,000 tons of cruisers and 900,000 tons of destroyers and destroyer escort vessels. Chairman Carl Vinson of the House Naval Affairs Committee, stated that right-of-way would be given to the construction of the aircraft carriers, with the cruiser and destroyer program being started early next year. The 1,200,000 tons of auxiliary vessels, such as tenders and service ships, brings to 2,550,000 the authorized auxiliary tonnage.

### SUPPLEMENTAL APPROPRIATIONS

The last Naval bill of the year was approved by the Senate on Oct. 20, which, after reconciliation of minor differences with the House, was signed by the President shortly thereafter. This second supplemental national defense appropriation carried \$15,851,200,000 in appropriations and contract authorizations for 2,100,000 tons of combatant and auxiliary vessels,

1,000 small defense craft and about 15,000 war planes for the Navy. The sum of \$6,341,000,000 was appropriated immediately for naval personnel, maintenance and operation of the Fleet and shore establishments and for naval aviation, the Coast Guard, and Marine Corps. The sum of \$9,510,000,000 was provided in the form of contract authorizations for construction of 500,000 tons of aircraft carriers, 500,000 tons of cruisers, 900,000 tons of destroyers and destroyer escort vessels, together with 201,000 tons of auxiliary and patrol vessels, and \$2,862,000 was allocated for the procurement of airplanes. This brought the direct appropriations for the Navy Department in 1943 to \$19,843,348,282 and \$10,984,634,000 in contract authorizations.

### THE MOMENTUM OF CONSTRUCTION

Throughout the year the shortage of critical materials was hanging over the armament effort. The shortage of steel production was most critical at times and forced the cancellation of a few projected expansions. The forward momentum of the Navy building was not retarded in the slightest degree, and the "Five-Ocean Navy" advanced on all fronts. A backward glance brings out the contrast between the present gigantic efforts and those of the previous naval construction programs. In 1930-40 only 138 combatant vessels were completed—four carriers, 27 cruisers, 73 destroyers, 32 gunboats. In 1930 fire-fighting ships were added; 1931 there were five; 1933, three; 1934, eight; 1935, six; 1936, nine; 1937, 32; 1938, 25; 1939, 17; and in 1940, 28 were added. A late report of the House Naval Affairs Committee states that 60 combatant ships were completed during the fiscal year 1941-42, almost half the total for the previous ten years. On June 30 there were under construction in the United States about 3,500 combatant auxiliary, patrol, and mine vessels and some 12,000 district craft. Since then many ships have been added to the construction lists. Construction

## IX. DEFENSE AND ARMAMENT

speed has exceeded all expectations and the over-all program has been set for delivery two years in advance of the originally contemplated date. The building times have been cut in all classes; battleships from 42 to 29 months; carriers from 45 to 24; heavy cruisers, 36 to 22; light cruisers 38 to 20; destroyers 27 to 11 and in many instances to less than nine months; and submarines from 21 to 11 months or even less.

### WAR PRODUCTION IN 1942

By MARTIN QUIGLEY

DIVISION OF INFORMATION, WAR PRODUCTION BOARD

#### SCALE OF PRODUCTION AND EXPENDITURE

The United States spent 1942 gearing and tooling itself for total war, and at the New Year its sprawling industrial plants which, in 1941, had produced more peacetime goods than any other nation in the world was making machine and war equipment at a rate unequalled by any other nation. In 1941 the United States spent \$13,800,000,000 for war purposes. In 1942 \$52,500,000,000 was spent for war. In the First World War, the peak of war expenditures was \$2,000,000,000 a month. The monthly rate at the end of 1942 exceeded \$6,000,000,000.

In 1941 the United States boosted tank production from virtually zero to many hundreds a month, and at the same time produced 3,700,000 electric refrigerators. Some 50,000 machine guns were produced, as were more than 1,500,000 typewriters. Plane production of about 2,000 a month was achieved in the same year that saw production of an all-time high of 5,000,000 motor vehicles. Millions of tons of steel went into bedsprings, farm machinery, egg-beaters, washing machines, school buildings, railroad locomotives, and hundreds of other civilian products.

It was not until Jan. 6, 1942, when the President set production goals which startled the world, that the United States, like a sluggish champion prize fighter, fully realized it could not do the job unless it got lean and tough and threw all its strength into the effort. The Office of Production Management was

abolished, and the War Production Board was established. Its chairman, Donald M. Nelson, was given supreme authority to assure "maximum production and procurement for war." The pressure was on, and there was no time to lose. There was no time to plan a nicely balanced program. There was only time to start producing as fast as possible.

#### THE CONVERSION PHASE

In early February the WPB stopped production of automobiles, and the industry which had produced 5,000,000 cars and trucks in a year set its manpower and inventive genius to work tooling up for tanks, planes, guns. In quick succession came limitation orders to insure that steel, copper, aluminum, and a score of other materials should go into war goods, and that industry should go to work producing them. Many manufacturers, especially smaller ones, could not get war work. They pleaded for war work. Their facilities were not suitable. Some became "casualties on the home front." There was no time to lose, no materials to waste." The conversion phase unfolded. Manufacturers of women's lingerie were making mosquito netting; a hair-curler producer was making clamps for airplane assemblies.

#### THE CONSTRUCTION PROGRAM

Altogether, about 70,000 prime contracts and 700,000 subcontracts were let during the year. The 1942 construction program within the United States totaled some \$13,000,000,000—the greatest in history. Deliveries of

## WAR PRODUCTION IN 1942

machinery and equipment added another \$3,500,000,000. In relation to resources, the program was too big.

The production curve climbed steadily. In March the rate of munitions production was twice what it had been in November, 1941. By June it was three times greater. Then production began to falter, and the answer was, in part, materials shortages. Steel was short. Aluminum was short. Rubber was short, and silk; and all good substitutes for them were short.

Conservation measures, already well developed, were intensified. Industry cooperated with government in cutting down industrial waste. Production for civilian purposes was cut further. The American people were asked to alleviate the materials situation by getting back into production millions of tons of scrap metal that had accumulated in junk piles, cellars, attics, and farm yards. Chairman Nelson called upon the newspapers for a whirlwind scrap collection campaign, and the newspapers and their readers came through. Before snow flew more than 5,000,000 additional tons of scrap metal were collected, and the mills were assured of enough to see them through the winter.

### ALLOCATION OF MATERIALS

The first big job had been done, and done well; American industry was in production for war. The WPB went on to the next big job, that of achieving maximum sustained production. The preference rating system, designed to insure that urgent production got materials ahead of less urgent, bogged down because there were more "urgent" calls than there was material.

The Production Requirements Plan, a big improvement, was set up as a means of allocating materials on the basis of the quarterly needs of the various manufacturers. It proved inadequate principally because it did not compel that the total program be kept within ability to produce and because it did not make sure that some components would not be manufactured at the expense of others.

The War Production Board, with the cooperation and advice of the Armed Services and other government procurement agencies and with management and labor, worked out a new system to control and implement production in an economy of scarcity; the Controlled Materials Plan was announced early in November.

Under CMP the War Production Board divides available steel, copper, and aluminum among the government agencies responsible for filling the essential military and civilian needs of the United States and the other United Nations. Each agency, in turn, cuts its programs to fit its share of materials and divides the steel, copper, and aluminum allotted to it among its manufacturers. Thus, each manufacturer is assured of just enough material, when he needs it, to produce precisely what is asked of him. In spite of some clogged channels and bottlenecks, the rate of production continued to climb.

### FORWARD SWING IN PRODUCTION RATE

On the anniversary of Pearl Harbor the American people were told that 1942 would see production of approximately 49,000 planes, 32,000 tanks and self-propelled artillery, 17,000 anti-aircraft guns larger than 20 mm., and 8,200,000 deadweight tons of merchant shipping.

By the end of the year the monthly rate of our military plane production was twice that of Germany's. The United States and the United Kingdom together were producing two and one-half times as many planes as all of Axis Europe combined. United States war production at the end of 1942 was equal to that of all the Axis nations, and the United Nations were out-producing the Axis almost 2 to 1.

As 1942 ended, the United States grimly entered its second year of war. In 1943, the overall war program would have to be intensified to do a better than \$90,000,000,000 war job. It would have to produce two thirds again as much as in 1942.

America was entering the third stage



## IX. DEFENSE AND ARMAMENT

of its production for war. In the third stage every man and every pound of critical materials must count. The war production labor force grew from 6,900,000 in 1941 to 17,500,000 in 1942. At least 5,000,000 more workers would be needed in 1943; no man or woman could be wasted.

National mileage rationing had dramatized the fact that the tires owned by Americans were to be regarded as part of the nation's resources. In a nation where extravagant cooking and eating habits had been a matter of fact, there was going to be enough food to keep the people strong and healthy but not so much that those who wasted their shares would get fat or stay fat.

### THE STEEL AND IRON INDUSTRY

The first big task was to try to keep the flow of materials in pace with ever-increasing demands. Steel may be taken as an example. In terms of plates and shapes, sheets, bars, pipe, wire, rails and the like, the United States this year turned out about 62,000,000 tons, or slightly more than 70 per cent of the 86,000,000 ingot tons the nation produced. The remaining 30 per cent went back into the furnaces in the form of scrap.

This is a tabulation of the nation's ingot production growth since 1939:

	Net Tons
1939.....	52,798,714
1940.....	66,982,686
1941.....	82,927,557
1942.....	186,000,000

<sup>1</sup>Estimated.

To make this increased production, rated steel-making capacity, as distinct from actual production, has been stepped up correspondingly. At the end of 1939, it was 81,000,000 tons; 1940, 84,000,000; 1941, 88,000,000. By the end of 1942 rated capacity approached 93,000,000 tons. The steel industry was operating at more than 97 per cent of capacity at the close of the year and has been over 90 per cent for two years.

More iron ore must be mined. More ships to haul the ore and more blast

furnaces to produce the pig iron from which steel is made must be built. More coke to use as fuel in the refining process must be produced. Among the major steps undertaken by WPB to fit the essential requirements to the supply has been the development of National Emergency alloy steels. These NE steels use manganese and silicon to produce steels with qualities comparable to more highly-alloyed types.

The problem of alloy steel supply is complicated by the fact that of the six alloying metals—nickel, chromium, manganese, tungsten, vanadium and molybdenum—all but molybdenum come principally from outside the United States. Large low-grade deposits of chromite ore have been developed in Montana, California, and Oregon.

The United States produces well over 85 per cent of the world's supply of molybdenum. So, this alloying metal was widely substituted for tungsten, chromium, nickel, and other more scarce alloys, but the formerly plentiful metal soon became just as short as the ones for which it was being substituted. As a result of steps taken in 1942 to increase the domestic supply, some 15 per cent more molybdenum was produced in 1942 to increase the domestic supply, and some 15 per cent more molybdenum will be produced in 1943.

In 1939 production of tungsten, needed for cemented carbides as well as tool steel, was just over 3,600 tons of concentrates. By 1941 it had doubled, and in 1942 it was doubled again. Strenuous efforts were made to locate and develop United States tungsten properties.

Even with curtailment of non-essential uses, maximum recovery of scrap, and highest possible production, serious shortages of nickel loom. The most significant possibility of expanding our supply is increasing nickel imports from Cuba.

In pre-war years manganese imports more than matched normal requirements; the United States now counts on domestic production, largely from low-grade ore, to meet from 25 to

## WAR PRODUCTION IN 1942

33 per cent of our essential needs. Manganese is an absolute requirement in every pound of steel produced. Normally, for every ton of steel produced, about 13 pounds of manganese are required. Remarkable success was achieved in 1942 in the expansion of domestic output, and as a result of careful planning, the manganese situation is today the best of any of the alloying metals.

### COPPER AND OTHER MINERAL SUPPLIES

The United States copper supply, which reached an all-time high of about 2,460,000 tons in 1941, was increased to nearly 3,000,000 tons in 1942, yet in 1942 production in many munitions plants was dislocated because copper was not available. The most important problem in copper production during the year was shortage of labor. This became acute in the middle of the year, and more than 5,000 tons of copper a month were lost in July and August because of manpower shortage.

Shortages of zinc were anticipated two years ago, and conservation measures were taken in the early days of the national defense program to bring supply into balance with demand. It was not until mid-1942 that zinc again became critical. The central problem in zinc supply at this time is continuing supply of ores. Ore deposits are limited, and the possibility of opening new mines of substantial size is small. The country faces the second year of war with uncertainty as to the adequacy of its future zinc supply.

In 1941 the United States imported 60 per cent of the world's tin supply. Of the 195,000-ton total supply, more than 90 per cent came from the Far East. With the United States and possessions and Mexico producing less than 1,000 tons of tin a year, and the Far East over 70 per cent of the world supply, 1942 was a year of learning how to do without tin. Efforts to recover tin from cans, which normally took half the supply, are expected to provide more than 5,000 tons of tin a year.

Just before Pearl Harbor, the United States aluminum supply was at the rate of 917,200,000 pounds a year. At the end of 1942 the rate was about 2,300,000,000 pounds. One of the most significant developments of 1942 in aluminum production was the conversion of aluminum plants to low-grade domestic bauxite and the construction of new plants to use the low-grade ore. During 1942, eight new ingot aluminum producing plants came into operation, with a total rated capacity of more than 1,000,000,000 pounds.

Large-scale production of magnesium was carried on in the United States for the first time in 1942. Magnesium, little known and produced since its discovery some 25 years ago, became an important partner of aluminum in aircraft manufacture. The month before Pearl Harbor, our magnesium production was at the rate of 42,000,000 pounds per year—not large by today's standards, but tremendous by 1939 standards (6,000,000 pounds) or even 1941 (33,000,000). At the close of 1942 production was at the rate of 260,000,000 pounds per year.

Lead is the one important metal in which a critical shortage did not exist at the close of 1942. When concern was first felt for lead supply back in October, 1941, control over distribution was established, and an emergency lead pool was set up. The country's supply of lead at the end of 1942 was at the rate of 1,308,000 tons per year, contrasted with a rate of 1,339,000 late in the previous year.

Throughout the minerals industry pressure for production has been applied on all fronts. Mercury, the non-metallics, mica, clays, quartz crystals, the rare metals—all have important war uses and have been increased in production tremendously.

### RUBBER

The capture of 90 per cent of the world's rubber supply by the Japanese in the first three months of the war put rubber high on the list of America's critical materials. When the Japanese armies overran that area in

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early 1942, the United States had no place to turn for the 600,000 tons it consumed annually.

The synthetic rubber program was expanded immediately, with the goal set for more than 400,000 tons in 1943 and still greater capacity later. The sale of new tires, except on strict rationing basis, was stopped Jan. 5, 1942 and recapping was restricted Feb. 19.

The Baruch Committee assembled the facts about rubber, studied them, and, on Sept. 10, laid down a comprehensive program designed to carry the nation through the rubber shortage. The report stressed both rubber conservation and increased synthetic production.

A nation-wide 35-mile per hour speed limit began within two months of the submission of the report, and on Dec. 1 nation-wide mileage rationing was instituted.

The difficulties in the way of synthetic rubber production are formidable. America had to start from scratch in building a synthetic rubber industry when construction materials were scarce. If all goes well, 50,000 tons of synthetic rubber will be produced during the first half of 1943.

Neither South American sources of natural rubber nor expansion of guayule, cryptostegia, and other rubber-bearing shrub production will produce any large amount of satisfactory rubber for some years.

The year 1943 is the crucial period in the rubber situation. Military demands are still growing. America has 30,000,000 tire replacements, the majority of them old tires, retreads, and tires made of reclaimed rubber. If the vast and ambitious synthetic rubber program is completely successful, and if the tires now on the road are carefully preserved, the United States will have defeated the rubber shortage by this time in 1944.

### THE SALVAGE AND CONSERVATION EFFORT

An all-out conservation program in 1942 helped to enlarge and replenish the country's stock piles of scarce raw materials. Thousands of tons of criti-

cal material have been made available for war purposes by simplifying the designs, models, and sizes of industrial products, by revising architectural and engineering specifications, by substituting more plentiful materials for the scarce, and by salvaging the accumulation of years of waste from the homes, factories, and junk yards of America.

The Newspaper Scrap Metal Drive was carried on in every state during October and November, with well over 90 per cent of the nation's newspapers answering Chairman Nelson's challenge to help get out the scrap, and an estimated 5,350,000 tons of scrap were produced.

Seventy per cent of all purchased iron and steel scrap comes from industrial plants. In its effort to keep this scrap moving back into production, WPB has had the cooperation of the nation's newspapers, of 3,500 volunteer salesmen from industry, and of the American Industries Salvage Committee.

Other salvage drives initiated during 1942 also produced spectacular results. America made scrap a household word and built new stockpiles of rubber, copper, tin, paper, silk, and fats.

President Roosevelt's "whirlwind" scrap rubber drive in June netted 450,000 long tons of scrap rubber. Total rubber collections by the end of October amounted to 520,000 long tons.

Waste paper was collected so enthusiastically in the first five months after Pearl Harbor that it became a glut on the market in May.

By September the amount of scrap copper recovered for war production purposes had already exceeded the total copper scrap collections for the year 1941.

Tin, which used to come from Japanese-held Malaya, was mined in 1942 from the bathroom cabinet and kitchen trash can. In October, detinning plants received 12,000 tons of tin cans.

Over 5,100,000 pounds of waste household fats and greases were sold to butchers by war-minded house-



## WAR PRODUCTION IN 1942

wives in October, and the glycerine is now on its way to make explosives. Fat collections increased month by month, climbing from 3,000,000 pounds in August to 5,000,000 pounds in October.

In November, the ladies dug out their worn and torn silk and nylon stockings and sent them to war for powder bags and other war materials.

Some 75,000,000 pounds of primary aluminum were saved by segregating scrap aluminum at the toolheads, and 156,000,000 pounds of copper were conserved by freezing inventories of fabricated and semi-fabricated parts in factories and warehouses. Reducing the types of bicycles from 20 models to two simplified models per manufacturer saved hundreds of thousands of pounds of steel, copper, and rubber, not to mention thousands of pounds of nickel, chromium, tin, and cadmium.

The armed services have accepted substitutes wherever such materials would not interfere with combat efficiency. A saving of 3,000,000 pounds of rubber for use in bomber tires was effected by substituting cattle-tail hair for rubber in tank and jeep linings. By substituting steel for brass in certain types of ammunition and cartridge cases, the Army saved over 77,000,000 pounds of copper for other uses where nothing but copper would suffice. It conserved 900,000,000 pounds of steel by substituting wood for steel in truck cargo bodies.

The chain of substitutions is endless. Saving copper by changing the cartridge brass formula put pressure for that extra 1½ per cent of material on a relatively more plentiful (but still critical) material—zinc.

By reviewing architectural and engineering specifications for construction projects down to the last detail it was possible in 1942 to save 800,000,000 tons of steel, 60,000,000 pounds of copper, and 6,000,000 pounds of rubber.

### THE CONTROLLED MATERIALS PLAN

A big step toward an all-out war economy was taken with the an-

nouncement of the Controlled Materials Plan in November, to become fully operative in the second calendar quarter of 1943. The main purpose of the plan is to make certain that production schedules are adjusted within material supply so that production requirements are met. Under CMP, allotment of materials is vertical in nature; that is, the materials to fill an army contract for tanks flow from the Army to the prime contractor and, through him, on down to every subcontractor, making parts for those tanks. Enough materials to make the tanks, and just enough, are allotted. And no tanks are scheduled unless materials have been allotted for them.

Carbon and alloy steel, copper, and aluminum—the three basic critical materials—will be the first "Controlled Materials" to be directly allotted under the plan.

Under CMP, the Requirements Committee of WPB, which makes the broad, final allotments, does not dole out so much steel, copper and aluminum directly to the manufacturers. Rather, it deals directly with the Army, Navy, Maritime Commission, and the other government agencies which actually apportion the materials. These agencies are known in CMP as the "Claimant Agencies."

The Requirements Committee knows how much steel, copper and aluminum are available for a given calendar quarter. Before it can apportion the available supplies among the various Claimant Agencies, it must know how much is required by each one. To supply this information, prime contractors prepare and submit a breakdown of all materials required for the approved end-products on which they are working. The breakdown comprises a "Bill of Materials," specifying not only what materials are required but when they must be received to meet authorized schedules. The Bills of Materials obtained from prime contractors are assembled by each Claimant Agency, and total requirements are then submitted to the WPB Requirements Committee and to the respective Controlled Materials



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Divisions, which make the necessary adjustments to bring the whole program into balance with available supplies.

When requirements have been brought into balance with supply and the programs of the various Claimant Agencies are approved, the WPB vice chairman on Program Determination—who also is chairman of the Requirements Committee—allocates, with the advice of the Requirements Committee, authorized quantities of the three Controlled Materials to each. The Claimant Agencies, in turn, distribute these broad allotments of materials among prime contractors by means of "Allotment Numbers," which constitute a right to receive delivery. The prime contractors pass on the Allotment Numbers as necessary to their subcontractors and suppliers.

Custom-built products for the armed forces or other Claimant Agencies, such as guns, tanks, ships, and planes, are known as Class A products, and receive their materials allotments directly from the Claimant Agencies. Other products, including standard parts of Class A products such as nuts, bolts, small motors and the like as well as maintenance and repair products for both industrial and civilian use, are on the "Class B" list. They receive their materials allotments from the Office of Civilian Supply, through the various Industry Divisions.

Materials other than Controlled Materials continue to be distributed through the priorities system. Each company receiving an Allotment Number carrying an allocation of Controlled Materials also receives a preference rating for use in obtaining other materials.

### PLANT CONVERSION ACHIEVEMENT

By the end of the summer of 1942, American metal-working manufacturing plants had practically completed the change-over from production of normal peacetime products to production of combat material and the

other goods and supplies needed to win this mechanical war.

Conversion, properly speaking, had to do with those highly specialized plants which were designed for maximum efficiency in mass production of a single product such as an automobile, a mechanical refrigerator, or a washing machine. In such plants layout had to be altered, machines had to be adapted where possible to the performance of new operations and new machines had to be installed. In many such plants much skill and ingenuity were used in rebuilding and adapting machinery.

The automobile manufacturers were the largest producers of a highly specialized end product. This industry ceased production for civilian use (except replacement parts) in February and is now producing more than 200 war items. Shipments of war goods were at the rate of nearly \$7,000,000,000 a year, 50 per cent more than the highest dollar rate ever reached in peacetime.

The automobile industry is by far the largest in this category, but it was not the first to start conversion. The first was the domestic washing machine industry which as early as August 1941 organized to manufacture gun mounts.

Although there was some curtailment of civilian goods production during the latter months of 1941, conversion of facilities did not begin in earnest until stop orders began to be issued in February. The last big civilian goods industry to be curtailed was the farm machinery industry in which production was cut, on Nov. 1 to 20 per cent of the 1940 rate, except for replacement parts and a few critical implements.

In addition to these "heavy" consumers' durable goods industries, the production of hundreds of every-day articles was practically stopped by orders which prohibited the use of aluminum, copper, steel, and other scarce metals in their manufacture.

It may be said that "conversion" had ceased by the autumn of 1942 to be an important concern of the

## WAR PRODUCTION IN 1942

War Production Board for it was either achieved or well on the way to achievement.

### UTILIZATION OF THE SMALLER PLANTS

For more than a year after the United States began to expand war production, most of the contracts went to the larger industrial firms. Plans had been made years before; everything was cut and dried. Procurement officers knew where to go for all standard war items, and to these sources they went. Some smaller plants were little interested in the new war industry. They were getting along all right, making things for civilian use, demand for which was greater than ever.

As early as the autumn of 1940, however, a "Small Business Committee" was set up in the National Defense Advisory Commission. In September, 1941, the Contracts Distribution Division, which extended a field organization, was started.

These agencies sought to help small plants adjust themselves to the rapidly changing conditions in industry by action in two directions: first, by seeking small allotments of scarce materials for the production of civilian goods; second, by assisting the smaller firms to obtain war contracts.

Later there was established in the War Production Board a Smaller War Plants Division. Smaller War Plants Division engineers select items that can be produced by smaller plants whose facilities are known to be capable and recommend them to procurement officers. Smaller War Plants Division field representatives check these facilities on the spot where necessary, and also assist the smaller plants in working out the best production methods. As a result of this procedure, the rate of placement of orders with small firms not previously able to get war work is steadily increasing. By Dec. 12, 1942, the Smaller War Plants Division was instrumental in the replacement of 234 prime contracts with a value of \$28,300,000.

### CONCENTRATION OF PRODUCTION

Concentrating production of civilian goods into as few plants as are required to produce essential quantities is a production principle thoroughly studied by WPB in 1942, although its application was not widespread. Concentration of production is practical wherever one or more of the following conditions is found in an industry producing essential civilian goods:

1. Where the industry has manufacturing facilities in excess of those required to produce the permitted amount of goods for civilian production, and where the facilities are suitable for production of military goods.
2. Where production of civilian goods has been so restricted that efficient operation of all firms in the industry is not possible.
3. Where a substantial part of the production of civilian goods is found to be in areas where there is a shortage of labor, power or warehouse facilities or where assembly of raw materials and distribution of the finished product would place a burden on transportation which would be avoided if production were elsewhere.

The operation of the Controlled Materials Plan will provide a base on which to build concentration plans, since it will determine the amount of materials available for the production of civilian goods. With this basic factor known, it becomes a simpler matter to arrange for the efficient production of the required volume. CMP also will assure materials for the permitted volume.

It is erroneous to consider concentration as a negative procedure. Without concentration, an industry cut to 25 per cent might disappear entirely. Concentration prevents this and provides efficient production of the necessary 25 per cent, and reasonable profits for the remaining producers.

## IX. DEFENSE AND ARMAMENT

### PRODUCTION VALUE AND VOLUME

The facilities program during 1942—including construction and machinery and equipment—totaled approximately \$18,500,000,000. This was \$4,500,000,000 larger than 1941, which was also a record year, and three times the average facilities volume of the last decade. The 1942 total comprises close to \$13,000,000,000 for construction within the United States, \$3,500,000,000 for machinery and equipment, and about \$2,000,000,000 for construction outside the United States.

Before reviewing 1942 construction it is well to take a look at figures for the previous year. The over-all volume, including machinery and equipment and construction within and outside the United States amounted to \$14,000,000,000. Construction within the United States alone totaled more than \$11,750,000,000, a figure exceeding by more than \$1,000,000,000 the previous peak years of 1925, 1928, and 1929. Direct military and war factory accounted for more than \$4,500,000,000 of this total, while civilian construction accounted for more than \$7,000,000,000.

Original plans for the 1942 program, made in the fall of 1941, called for a total program of about \$12,750,000,000. After Pearl Harbor, the program was reviewed again. The direct military construction program was increased only slightly to a total of about \$5,500,000,000. The factory program, however, was increased by about \$1,000,000,000 to permit manufacture of tanks, airplanes and munitions at a faster rate than had been scheduled in the late fall of 1941.

### INDUSTRIAL MANPOWER

At times the 1942 program took nearly 3,000,000 men from our labor force. It consumed approximately 13,000,000 tons of cast iron and steel in the form of finished products, which means it took a pig and ingot capacity of 18,000,000 tons.

Aeronautics construction reached a peak of about \$250,000,000 a month. This was equivalent to building 50

airfields a month. More than \$400,000,000 of war factories were constructed in one month. Factories built in 1942 must have men to run them in 1943. Guns, tanks and planes being turned out in factories in 1942 and in 1943 will demand men in the armed forces to man them in 1943. It is obvious that the nation can not afford to have 3,000,000 men in construction in 1943. When ships, tanks, and guns are being delayed because of a shortage of steel, the nation can not afford to divert 20 per cent of its iron and steel output to construction. When production of ammunition is being delayed due to a shortage of brass, the nation can not afford to divert 160,000 tons of copper or 75,000 tons of zinc to construction. The nation simply does not have the raw material to continue to construct at the 1942 rate.

Continuous studies are being made to determine exactly what facilities are needed to keep the program in balance. Even before Pearl Harbor, American labor realized that some day it would be called upon to help stop the dictators. When Japanese bombs fell, labor responded with increased effort.

Production records have been broken in practically every category of war materials. The battleship New Jersey was built 18 months ahead of schedule. Bombers, fighters, and tanks are being assembled in the United States faster than ever before anywhere in the world.

Organized labor has relinquished the strike as a weapon for the duration of the war.

America's seagoing workers, members of seamen's unions, risk their lives again and again to carry war supplies and food across the oceans to our battle lines.

Working men and women have bought billions of dollars worth of war bonds during the year. Leaders of labor enlisted millions of workers in support of the plan to assign 10 per cent of their pay envelopes to the purchase of war bonds.

In June of 1940, the labor force consisted of 56,700,000 of whom 8,600,000

## ADMINISTRATION OF VETERANS AFFAIRS

were unemployed, leaving a net force of about 48,000,000 in employment or the armed forces. By June of 1942, the labor force had grown to 59,900,000, of whom 2,800,000 were idle, a net of about 57,000,000 in employment or the armed forces.

Withdrawal of several million workers from peace time pursuits into the armed forces has aggravated labor supply problems in industry, mining, agriculture, transportation and service trades. War industry, for example, has not only had to expand its labor force enormously but to train replacements for those called into the armed forces.

### THE HANDLING OF LABOR PROBLEMS

With the establishment of the War Manpower Commission in April, 1942, WPB's Labor Production Division became the agency to represent labor within the WPB rather than an agency to handle labor supply problems for the Government. A Labor Policy Committee made up of representatives of AFL and CIO is consulted on all divisional policy. Partic-

ipation in important WPB operating units is affording labor the opportunity to present labor's position on significant issues, so as to assure most efficient use of available workers. Labor Advisory Committees are being established in each of the WPB Industry Division, which are also served by consultants assigned by the Labor Production Division.

WPB labor consultants have aided the Conciliation Service and the War Labor Board in connection with disputes arising out of war production operations, or out of internal trade union situations or War Production Drive operations. The war effort has been notably speeded by effective stabilization agreements between labor and industry in the building and construction trades, and in shipbuilding.

On Dec. 6, President Roosevelt centralized responsibility for manning the armed forces, industry, and agriculture in the hands of War Manpower Commissioner McNutt; WPB's chief responsibility in this field during the coming year lies in increasing the effective utilization of war industry workers, and using the national labor force to the best possible advantage.

## ADMINISTRATION OF VETERANS AFFAIRS

By FRANK T. HINES

ADMINISTRATOR, VETERANS ADMINISTRATION

### ORGANIZATION

As of June 30, 1942 the organization of the Veterans' Administration consisted of the following officers: Frank T. Hines, Administrator of Veterans' Affairs; Adelbert D. Hiller, Executive Assistant to the Administrator; Harold W. Breining, Assistant Administrator in charge of finance and insurance; Omer W. Clark, Assistant Administrator in charge of pensions and compensation; George E. Ijams, Assistant Administrator in charge of medical and domiciliary care and treatment, construction and supplies; Edward E. Odom, Solicitor in charge of legal activities; and Robert L.

Jarnigan, Chairman of the Board of Veterans' Appeals.

### INSURANCE

The United States Government life insurance fund is a trust fund administered by the Government as trustee for the sole benefit of the policyholders. The Government derives no profit whatever from the administration of this fund as it may be used only for the payment of claims under United States Government life insurance contracts and as dividends to the policyholders themselves. All premiums paid by the policyholders and all interest received from policy loans, in-



## IX. DEFENSE AND ARMAMENT

vestments, etc., are covered by this fund in the United States Treasury.

As of June 30, 1942, there were in force 594,735 Government life converted insurance policies aggregating \$2,507,082,186 of insurance. Monthly payments averaging \$35.19 were being paid to 10,836 policyholders for permanent and total disabilities. During the fiscal year ended June 30, 1942 there were approved 4,679 applications aggregating \$23,215,306. The actual disbursement made from this fund during the fiscal year 1942 was \$44,-481,192.02.

Yearly renewable term insurance was granted to all veterans of World War I who made application for this form of benefit within 120 days after induction into service. The amount of term insurance was limited to \$10,000 for each veteran. Monthly payments on term insurance policies are based on \$5.75 per \$1,000 of insurance in force at such time an award for disability or death is made. As of June 30, 1942, monthly payments were being made to 9,981 permanently and totally disabled veterans and to the beneficiaries of 6,402 deceased veterans. An analysis of the disabilities for which term insurance was being paid shows 53.86 per cent for neuropsychiatric diseases, 20.49 per cent for tuberculosis, and 25.65 per cent for general medical and surgical conditions.

Automatic insurance was granted to those veterans of World War I who were disabled or who died within 120 days after being inducted into service and before application for term insurance was made. The amount of automatic insurance was limited to \$5,000. As of June 30, 1942, monthly payments were being made to 236 veterans and the beneficiaries of 30 deceased veterans. These payments are fixed by law at \$25 per month.

The total disbursements for term and automatic insurance during the fiscal year 1942 was \$15,490,931.27.

The National Service Life Insurance Act, approved Oct. 8, 1940, authorized the issue of a new type of insurance to certain persons then in the active service of land and naval forces (including Coast Guard) and those there-

after entering on active duty, including persons inducted under the Selective Training and Service Act of 1940. The insurance was available to those persons then on active duty, and if in good health, upon application made within 120 days from the date of the approval of the act. As to those who entered service after that date, application must be made within 120 days from date of entry into service. This insurance is limited to \$10,000 for each veteran and is payable only in the event of the death of the insured while the policy is in force. During the fiscal year 1942 there were approved 1,113,835 applications aggregating \$5,616,574,000 of insurance. The total number of applications approved to June 30, 1942 was 1,481,758, amounting to \$6,810,239,500 insurance.

An act to promote and strengthen the national defense by suspending enforcement of certain civil liabilities of certain persons serving in the military and naval establishments, including the Coast Guard, was approved Oct. 17, 1940. Article IV of the act provides that the Government will, on application by the insured, guarantee to commercial insurance companies premiums on insurance carried with such companies by persons in active service. Through June 30, 1942, 35,118 applications for insurance benefits under this act had been received, of which 23,421 representing \$56,501,-816.38 of insurance had been approved and 5,770 representing \$12,289,358.62 insurance had been disapproved. Certificates issued to insurers guaranteeing premiums totaled 1,621, in an aggregate amount of \$1,016,995.58.

### GUARDIANSHIP

The Veterans' Administration maintains a close supervision of all guardianship activities for incompetent veterans and minor beneficiaries. An effort has been made to utilize so far as possible the services of relatives as guardians of the person and the services of banks and trust companies as guardians of the estate of wards. As of June 30, 1942 the total guardianship load was 81,114 wards of whom 43,336 were incompetents and 37,778 minors. The value of estates of all

## ADMINISTRATION OF VETERANS AFFAIRS

wards approximated \$159,935,514.67, most of which was legally invested or deposited in banks protected by Federal Deposit Insurance.

### PENSIONS AND COMPENSATIONS

**Yellow Fever Experiments.**—*Participants.* An act approved February 28, 1929, recognized the high public service rendered by Major Walter Reed and those associated with him in the discovery of the cause and means of transmission of yellow fever. This act, in addition to establishing a roll of honor, granting medals, etc., authorized a monthly payment of \$125 to each of 17 designated persons during the remainder of their lives. As of June 30, 1942, 9 persons were receiving this benefit. The disbursements for this type of benefit during the fiscal year totaled \$14,750.

**Revolutionary War.**—*Veterans.* The last pensioner was Daniel F. Bakeman who died at Freedom, N. Y. April 5, 1869 at the age of 109 years. The last widow of a veteran to receive pension was Esther S. Damon of Plymouth County, Vt. Mrs. Damon died Nov. 11, 1906 at the age of 92 years.

**War of 1812.**—*Veterans.* Hiram Cronk, the last veteran pensioner died May 13, 1905, at Ava, N. Y. at the age of 105 years.

**Deceased Veterans.** The last widow of a veteran to receive pension was Caroline King of Cheektowaga, N. Y. Mrs. King died June 28, 1938 at the age of 89 years.

As of June 30, 1942, the sole remaining pensioner was Esther Ann Hill Morgan of Independence, Oregon, a dependent daughter of John Hill, deceased, private in Clark's and McCumber's Companies, New York Militia. Mrs. Morgan was born March 9, 1857, and receives \$20 a month by a special act of Congress.

**Mexican War.**—*Veterans.* This war ended May 30, 1848. The last veteran pensioner was Owen Thomas Edgar, an apprentice on board the U. S. S. *Potomac*, Experiment, Pennsylvania and Alleghany, U. S. Navy. Mr. Edgar died September 3, 1929, at Washington, D. C., age 98 years.

**Deceased Veterans.** On June 30, 1942, pensions were being paid to 95 widows of veterans. This represents a decrease of 12 in the number of dependents on the roll as of June 30, 1941. The disbursements made during the fiscal year 1942 totaled \$54,966.34.

**Indian Wars.**—*Veterans.* On June 30, 1942, pensions were being paid to 1,713 veterans. The latter represents a decrease of 242 in the number on the roll since June 30, 1941. The average age of the 1,713 veterans was 82 years. Disbursements during the fiscal year 1942 totaled \$1,332,595.20.

**Deceased veterans.** As of June 30, 1942 pensions were being paid to the dependents of 3,676 deceased veterans. The number of dependents totaled 3,716, classified as follows: 3,634 widows, 72 children and 10 others. The disbursements during the fiscal year 1942 totaled \$1,330,940.07.

**Civil War.**—*Veterans.* Out of a total of 2,213,365 that served in the Union forces in the Civil War which terminated 77 years ago, pensions were being paid to 975 veterans on June 30, 1942. The average age for this group was 97 years. During the fiscal year 1942 the number on the pension roll decreased 585. The disbursements during this fiscal period totaled \$1,340,514.75.

**Deceased Veterans.** On June 30, 1942, pensions were being paid to the dependents of 37,714 deceased veterans as compared with 43,313 on June 30, 1941. These dependents totaled 37,873 and were classified as follows: 35,756 widows and remarried widows, and 2,117 children. Of the 37,714 death cases there were 4,917 cases in which the monthly payment was \$30, 28,377 cases in which the beneficiary received \$40 per month as provided by law for widows of the attained age of 70 years, 236 cases in which \$50 per month was being paid to widows who were wives of veterans during their military service, 3,338 cases in which the dependents received pensions by special acts of Congress, and 846 cases in which the dependents were paid under general laws and service laws

## IX. DEFENSE AND ARMAMENT

at miscellaneous rates because of the death of the veteran from causes due to military service. The disbursements during the fiscal year 1942 totaled \$18,184,938.41.

**Spanish American War.—Veterans.** On June 30, 1942, pensions were being paid to 146,886 veterans. Of this number 145,407 were receiving pensions for disabilities of non-service origin or for age, 1,410 for service-connected disabilities, and 69 were special act cases. A study of the age of these pensioners shows that 77 per cent were between the ages of 60 and 70 as of the above date. The number of veterans on the roll decreased 6.18 per cent during the fiscal year 1942. Disbursements during the fiscal period amounted to \$102,692,905.36.

**Deceased Veterans.** As of June 30, 1942, pensions were being paid to the dependents of 62,947 deceased veterans as compared with 60,555 on June 30, 1941. The number of dependents totaled 67,134 and were classified as follows: 60,786 widows, 6,088 children, 252 parents, and 8 others. During the fiscal year 1942, \$22,981,247.54 was paid in pensions to these dependents.

**Regular Establishment.—Veterans.** As of June 30, 1942, the number of veterans receiving pensions as a result of disabilities incurred in service in time of peace totaled 41,583 as compared with 37,520 on June 30, 1941. The disbursements for this class of pensioners during the fiscal year 1942 totaled \$15,623,585.08.

**Deceased Veterans.** On June 30, 1942, pensions were being paid to the dependents of 11,929 deceased veterans whose death was determined to be the result of disease or injury originating in line of duty in the military or naval service in time of peace. There was an increase of 1,069 death cases during the fiscal year 1942. The number of dependents receiving pensions as of June 30, 1942 totaled 18,720, consisting of 6,127 widows, 6,081 children, 6,504 parents, and eight others. The disbursements during the fiscal year 1942 totaled \$3,670,338.41.

**World War I.—Veterans, service-connected.** During the fiscal year 1942, the number of veterans receiving

compensation for disabilities directly or presumptively connected with service decreased from 349,724 to 348,103. An analysis of the major disabilities of service-connected veterans on the pension roll June 30, 1942 shows that 19.73 per cent were neuropsychiatric diseases, 15.31 per cent were tubercular ailments, and 64.96 per cent were general medical and surgical conditions. During the fiscal year 1942, \$168,362,812.92 was paid in compensation to veterans with service-connected disabilities.

**Veterans, nonservice-connected.** As of June 30, 1942, pensions were being paid to 81,660 totally disabled veterans whose disabilities were not of service origin. This is an increase of 9,182 in the pension roll during the fiscal year 1942. Of the veterans on the roll 17 per cent were over 55 years of age. The disbursements during the fiscal year 1942 for pensions to veterans with nonservice-connected disabilities totaled \$26,603,293.11.

**Emergency, Provisional, Probationary, or Temporary Officers.** As of June 30, 1942, there were 2,701 such officers entitled to retirement pay, of whom 2,605 were receiving full pay and 41 partial pay. Of the partial forfeitures, 19 were due to the beneficiary being an enlisted man of the Regular Army and 22 to the application of section 212 of Public No. 212, 72nd Congress, approved June 30, 1932, which provided that in case the salary of any retired officer (except those whose disability was incurred in combat with an enemy of the United States) in the employ of the Federal Government together with the retirement pay exceeds \$3,000 per annum, the retirement pay should be reduced or discontinued so that the sum of the two shall not exceed \$3,000. In the remaining 55 cases, complete forfeitures were made for the following reasons: 39 because of section 212 cited above; eight by reason of active duty in the National Guard, and eight because of incompetency—estate over \$1,500. The disbursements for retirement pay during the fiscal year 1942 totaled \$4,405,889.98. Of the 2,701 officers entitled



## ADMINISTRATION OF VETERANS AFFAIRS

to retirement pay on June 30, 1942, 2,613 served in the Army, 72 in the Navy, and 16 in the Marine Corps.

*Deceased veterans, service-connected.* On June 30, 1942, compensation was being paid to the dependents of 94,171 veterans who died in service or as a result of diseases or injuries incurred in service. These dependents totaled 130,361 and were classified as follows: 30,642 widows, 25,790 children and 73,929 parents. The disbursements during the fiscal year 1942 totaled \$53,817,353.17.

*Deceased veterans, nonservice-connected.* An act approved June 28, 1934, as amended July 19, 1939, authorized the payment of compensation to the widows and children of deceased veterans who at the time of death, were suffering from a disability of service origin but who died as a result of a disability not incurred in service. On June 30, 1942, compensation was being paid to the dependents of 24,349 such veterans. These dependents were classified as follows: 20,814 widows and 31,544

children. The disbursements during the fiscal year 1942 totaled \$10,681,301.37.

**World War II.—Living veterans, service-connected.** On June 30, 1942, there were 93 veterans in receipt of pensions for disabilities incurred in line of duty on or after December 7, 1941. The average age of these veterans was 26 with the greatest incidence of disability at 22. Disbursements to this group during the period December 7, 1941, through June 30, 1942, totaled \$11,913.32.

*Deceased veterans, service-connected.* As of June 30, 1942, pensions were being paid to the dependents of 1,153 veterans who died as a result of disease or injury originating in line of duty in the military or naval service on or after December 7, 1941. These dependents totaled 1,852 and were classified as follows: 448 widows, 313 children, and 1,091 parents. Disbursements to this group during the period December 7, 1941, through June 30, 1942, totaled \$188,874.90.

War	On Roll June 30, 1942	Disbursements Fiscal Year 1942
Yellow Fever Experiments		
Participants.....	9	\$ 14,750.00
War of 1812		
Deceased veterans.....	1	240.00
Mexican War		
Deceased veterans.....	95	54,966.34
Indian Wars—Total.....	5,389	2,663,535.27
Living veterans.....	1,713	1,332,595.20
Deceased veterans.....	3,676	1,330,940.07
Civil War—Total.....	38,689	19,525,453.16
Living veterans.....	975	1,340,514.75
Deceased veterans.....	37,714	18,184,938.41
Spanish American War—Total.....	209,833	125,674,152.90
Living veterans.....	146,886	102,692,005.36
Deceased veterans.....	62,947	22,981,247.54
Regular Establishment—Total.....	53,512	19,293,923.49
Living veterans.....	41,583	15,623,585.08
Deceased veterans.....	11,929	3,670,338.41
World War I—Total.....	550,929	263,870,650.55
Living veterans.....	432,409	199,371,996.01
Service-connected.....	348,103	168,362,812.92
Nonservice-connected.....	81,660	26,603,293.11
Emergency Officers, etc.....	2,646	4,405,889.98
Deceased veterans.....	118,520	64,498,654.54
Service-connected.....	94,171	53,817,353.17
Nonservice-connected.....	24,349	10,681,301.37
World War II—Total.....	1,246	200,788.22
Living veterans.....	93	11,913.32
Deceased veterans.....	1,153	188,874.90
Grand Total—Pensions and Compensation.....	859,703	431,298,459.93
Living veterans.....	623,659	320,373,609.72
Deceased veterans.....	236,035	101,910,200.21
Participants, Yellow Fever Experiments.....	9	14,750.00



## IX. DEFENSE AND ARMAMENT

### GRAND TOTAL—PENSIONS AND COMPENSATION

The foregoing table shows the number on the rolls as of June 30, 1942 and the net disbursements during the fiscal year 1942 from the appropriations "Army and Navy Pensions."

### HOSPITALIZATION

On June 30, 1942, the Veterans' Administration was operating hospital facilities at 92 locations in 45 states and the District of Columbia. The total number of beds in these facilities was 80,824, of which 62,453 were for hospital treatment and 18,371 for domiciliary care. In addition, 1,959 hospital beds in other government facilities were being utilized.

On June 30, 1942, the hospital load was 56,346 patients. Of this number 56,073 were United States veterans classified by service as follows: World War I, 49,140; World War II, 832; Spanish American War, 2,951; Civil War, 18; all other wars, expeditions and occupations, 55; and Regular Establishment, 3,077. Other hospital patients included 31 allied veterans of World War I, 18 employees of the Civilian Conservation Corps and Works Progress Administration, and 224 miscellaneous beneficiaries. Of the 56,073 United States veterans 76.82 per cent were receiving treatment for disabilities not of service origin. There were 52,999 United States veterans in facilities controlled by the Veterans' Administration, 2,080 in other government hospitals, and 994 in state or civil institutions. Over 62 per cent of the United States veterans in all hospitals were receiving treatment in facilities located in the state of their reported home address. Of the patients in hospitals June 30, 1942, 61.59 per cent were receiving treatment for neuropsychiatric diseases, 29.64 per cent for general medical and surgical conditions and 8.77 per cent for tuberculosis. Admissions during the fiscal year 1942 included 179,274 United States veterans, 127 allied veterans, 471 employees of the Civilian Conservation Corps and Works

Progress Administration, and 2,286 miscellaneous beneficiaries. Of the 179,274 United States veterans, admissions were authorized for 9,658 for observation and treatment of tuberculosis, 10,200 for psychotic or mental diseases, 14,101 for other neurological disorders, and 145,315 for general medical and surgical conditions.

During the fiscal year 1942, 239,001 United States veterans were under hospitalization. Of this number, 182,929 were discharged after an average of 78.7 in-patient days. Patients who remained until the completion of treatment numbered 147,607 or 80.69 per cent of the total discharges. Approximately 80 per cent of the United States veterans discharged during this fiscal period had been under treatment for general medical or surgical conditions, 15 per cent for neuropsychiatric diseases, and 5 per cent for tuberculosis.

Deaths in hospitals during the fiscal year 1942 totaled 12,977, of which number 72.08 per cent occurred among patients under treatment for general medical conditions, 14.79 per cent from tuberculosis, and 13.13 per cent for neuropsychiatric diseases.

### DOMICILIARY CARE

At the close of the fiscal year 1942 the veteran population reported as present in domiciliary status in facilities under the control and jurisdiction of the Veterans' Administration totaled 11,573. The percentage distribution of the above veteran patients by wars were: World War I, 91.70 per cent; World War II, .02 per cent; Spanish American War, 5.38 per cent; other wars, expeditions and occupations, .11 per cent; and peacetime service in the Regular Establishment, 2.79 per cent. An analysis of the causes of disability of these veterans shows 7,417 to be general medical and surgical conditions; 3,987, neuropsychiatric diseases; and 169, tubercular ailments. Approximately four-fifths of the domiciled veterans on June 30, 1942, were under care in facilities located in California, Kansas, New York, Ohio, Tennessee, Vir-

## ADMINISTRATION OF VETERANS AFFAIRS

ginia, and Wisconsin. The approximate average age of veterans of each of the major wars who were present in domiciliary status at the close of the fiscal period was as follows: Spanish American War, 67 years; and World War I, 49 years.

During the fiscal year 1942 there were 24,508 veterans admitted for domiciliary care. Of this number 22,352 or 91 per cent had served in World War I and 1,370 or 5 per cent in the Spanish American War. Approximately 93 per cent of the admissions were for disabilities not of service origin. Of the veterans admitted for domiciliary care during this period 69 per cent were disabled by general medical and surgical conditions, 30 per cent by neuropsychiatric diseases, and 1 per cent by tubercular ailments.

During the fiscal year 1942, 27,979 veterans were discharged after an average of seven months domiciliary care. Deaths among domiciled veterans during the fiscal year 1942 totaled 84, the principal causes of which were diseases of coronary arteries and angina pectoris, diseases of the myocardium, and syphilis, which collectively were responsible for 60 per cent of the deaths.

In conformity with the act of Aug. 27, 1888 (U.S.C., title 24, Sec. 134), as amended by Public No. 250, 76th Congress, approved Aug. 1, 1939, the Federal Government is required to reimburse state or territorial homes for disabled soldiers at the rate of \$240 per year for each person domiciled therein who is eligible for similar care in facilities controlled by the Veterans' Administration. During the fiscal year 1942 an average of 5,730 such persons was cared for in these homes, thereby creating an obligation of over \$1,375,200 on the part of the Federal Government.

### DENTAL CARE

During the fiscal year 1942 dental care was provided for 32,505 hospital patients, 10,087 domiciliary members, and 3,394 out-patients in clinics maintained by the Veterans' Administration, at an annual cost of \$1,082,492.

Had these services been secured through the medium of private practitioners the cost would have approximated \$1,796,475. During this fiscal period, 35,710 artificial dentures were made and 8,733 repaired in dental clinics of the Veterans' Administration. Dental treatment was authorized to private practitioners for 1,547 veterans at a cost of \$62,648 during the same period.

### OUT-PATIENT EXAMINATIONS AND TREATMENTS

During the fiscal year 1942, there were 933,812 physical examinations for out-patient purposes made in field facilities. Of these examinations 98 per cent were medical and 2 per cent dental. Treatments furnished during the year for out-patient purposes totaled 1,003,429 of which 91 per cent were medical and 9 per cent dental.

### CIVILIAN CONSERVATION CORPS

The primary functions of the Veterans Administration in its relationship to the Civilian Conservation Corps work have been to determine the eligibility of applicants for membership in the veterans contingent, to select from the eligible applicants the requisite number to maintain the authorized quota at full strength, and to certify such selectees to the War Department for physical examination and enrollment.

The total authorized quota for the veterans' contingent of the Corps at the beginning of the year was 24,400. The year was begun with an enrollment strength of 20,200 veterans. There were 11,342 veterans enrolled in the Corps during the fiscal year. The remaining strength on June 30, 1942 was 11,147. The records indicate that as of June 30, 1942 there had been approximately 225,000 enrollments in the veterans' contingent since its beginning. The total number of veterans and their dependents who had received direct monetary benefits through payments and allotments was slightly less than 600,000.

The Civilian Conservation Corps ceased to exist as an operating agency on June 30, 1942, responsive to Con-

## IX. DEFENSE AND ARMAMENT

gressional legislation. The veterans remaining in the Corps at that time were given assistance primarily through the medium of the United States Employment Service in obtaining employment elsewhere. It is fortunate that at the close of the Corps opportunities for employment were on the increase.

### COOPERATIVE EMPLOYMENT ACTIVITIES

The Veterans Administration does not maintain an employment service. However, it has, through representatives of Central Office and the field facilities, cooperated with the U. S. Employment Service, of the Social Security Board and other Government agencies, actively participated in the deliberations of the Committee on Veterans' Employment Service,

and maintained personal contact with local representatives of the U. S. Employment Service of the Social Security Board and other government agencies so that interested veterans might also have direct contact therewith. Employment Service reports show that at the close of the fiscal year 1942 the number of unemployed veterans registered for employment was 152,130 as compared with 212,984 at the close of the previous fiscal year.

### FINANCE

During the fiscal year 1942, the total net disbursements made by the Veterans' Administration from all appropriations and trust funds (including adjustments on lapsed appropriations) were as follows:

Purpose	Disbursements
Salaries and Expenses.....	\$104,539,046.33 <sup>1</sup>
Printing and binding.....	155,032.86
Public Works Administration Act of 1938 (allotment to Veterans' Administration 1938-1942).....	42,502.37
Hospital and domiciliary facilities and services Veterans' Administration....	4,002,650.93
Army and Navy pensions.....	431,298,459.93
Military and naval insurance.....	15,490,931.27
United States Government life insurance fund.....	44,481,192.02
National Service life insurance.....	960,608.14
Adjusted service certificate fund.....	43,227,404.24 <sup>2</sup>
Adjusted service and dependent pay.....	253,196.34
Vocational training.....	-3,641.63 <sup>3</sup>
Allotments and allowances.....	-2,217.06 <sup>3</sup>
General Post Fund.....	35,906.51
Funds due incompetent beneficiaries.....	124,148.39
Personal funds of patients, Veterans' Administration.....	2,702,885.67
Miscellaneous.....	25,885.59
Total.....	\$647,333,991.90

<sup>1</sup> Includes adjustments on lapsed appropriations—Medical and Hospital Services, credit of \$2,071.40 and National Homes for Disabled Volunteer Soldiers, credit of \$5.60; also includes net disbursements of \$987,004.75 made to other government agencies for the care and treatment of Veterans' Administration beneficiaries.

<sup>2</sup> Includes amounts for repayment of loans, due to a change in method of reporting as of July 1, 1941, to conform to Executive Order No. 8512 and Regulation No. 1 issued pursuant thereto. Actual disbursements for fiscal year 1942 amounted to \$1,659,220.95.

<sup>3</sup> Credits.

## WATERWAYS AND HARBORS

BY EUGENE REYBOLD

MAJOR GENERAL, U. S. A.; CHIEF OF ENGINEERS, WAR DEPARTMENT

### INLAND WATERWAYS

The principal canals and inland navigable waterways of the United States include the Great Lakes, Mis-

issippi River system, Illinois Waterway, New York State Barge Canal system, Atlantic Intracoastal Waterway extending from Trenton, N. J.

## WATERWAYS AND HARBORS

to the Florida Keys, Gulf Intracoastal Waterway extending from the St. Marks River in Florida to Corpus Christi, Tex., San Joaquin-Sacramento River system in California, and Columbia River system in the northwest.

The Great Lakes have natural deep water except in the connecting channels which have been artificially deepened where necessary to accommodate deep-draft vessels. These connecting channels are the St. Marys River and Canal between Lake Superior and Lake Huron, the Straits of Mackinac connecting Lake Huron with Lake Michigan, the St. Clair River and Lake and the Detroit River between Lake Huron and Lake Erie, the Welland Canal joining Lake Erie and Lake Ontario, as improved by Canada, and the St. Lawrence River to the sea.

The Mississippi River System embraces the river proper, the Red, Arkansas, Tennessee, Missouri, Illinois, Ohio, Monongahela, Allegheny, and Kanawha rivers and other streams. The Mississippi River has a channel suitable for deep-draft, ocean-going vessels upstream to Baton Rouge, La. and thence a channel for modern barge navigation to Minneapolis, and in its principal tributaries which include the Ohio River and the Missouri River. The Illinois River and waterway to Lake Michigan has a barge channel which connects the Great Lakes with the Mississippi River system. An additional outlet from the Great Lakes to the Sea is *via* the Oswego and Erie branches of the New York State Barge Canal between Lake Ontario and the Hudson River.

The Atlantic Intracoastal Waterway and the Gulf Intracoastal Waterway provide a protected channel for barge and other light-draft navigation following coastal sounds, bays, rivers, and artificial channels.

The San Joaquin-Sacramento River system, which has an outlet to the sea through San Francisco Bay, provides a deep-draft channel to Stockton, Calif. on the San Joaquin River and a moderate-draft channel to Sacramento, on the Sacramento River,

and in addition other channel improvements.

The Columbia River has a deep-draft channel to Portland, Ore. and to Vancouver, Wash., and depths suitable for commercial vessel traffic to the head of the pool formed by Bonneville Dam and thence depths for barge navigation upstream to and including the Snake River.

### WATERWAY AND HARBOR IMPROVEMENTS

During the fiscal year ending June 30, 1942, national defense preparation and the advent of war required concentration of effort and the utilization of available construction equipment, materials, and manpower on those authorized projects having the greatest connection with the preparedness program and the war effort. In addition to the regular river and harbor operations, work was undertaken on emergency river and harbor projects required by the armed forces. The principal items of improvement works prosecuted during the fiscal year included the completion of the deep-draft Delaware River channel from Philadelphia to the sea; dredging and rock removal in the Kennebec River from the mouth to Bath, Maine; removal of rock ledge in the main channel of Portland Harbor, Me.; improvement of the entrance channel from the Gulf of Mexico to Calcasieu River and Pass, Louisiana; improvement of the channel in the Saginaw River to Saginaw, Mich.; channel widening and turning basin extension in the Cuyahoga River at Cleveland, O.; extension of the breakwater system at Los Angeles and Long Beach Harbors, Calif.; power house extension at the Bonneville Dam on the Columbia River; and the construction of a power plant at the Fort Peck Dam, Mont.

Operations were undertaken at other important channel and harbor projects located on the Atlantic, Gulf, and Pacific coasts, and on the Great Lakes. These localities include Boston Harbor; Cape Cod Canal; Providence River and Harbor, Rhode Island; Stamford Harbor, Connecticut;



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cut; Bronx River and New York Harbor; the New York and New Jersey channels; Great Lakes to Hudson River waterway; Great Kills Harbor, N. Y.; Raritan River and Sandy Hook Bay, New Jersey; the Chesapeake and Delaware Canal; Curtis Creek, Middle River, Wicomico River and Fishing Creek, Maryland; Norfolk and Portsmouth Harbors, and Mattaponi River, Virginia; Roanoke River, Oregon Inlet, and Silver Lake Harbor, North Carolina; St. Augustine Harbor, Florida; Mobile Harbor, Alabama; Pascagoula Harbor, Mississippi; the Sabine-Neches Waterway, Texas; the Louisiana-Texas Intracoastal Waterway; the Mississippi River between the Ohio River and Minneapolis, Minnesota; the Missouri River between the mouth and Sioux City, Ia.; San Francisco Harbor, San Pablo Bay, and Mare Island Strait, and Bodega Bay, California; the Columbia River between Vancouver, Washington, and Bonneville, Oregon; the upper Columbia and Snake Rivers, Oregon, Washington, and Idaho; and Neah Bay, Washington.

The Act of Congress approved March 7, 1942, authorized the construction of a new navigation lock at Sault Ste. Marie, Michigan, and an act approved July 23, 1942, authorized the construction of a barge canal across northern Florida and the enlargement of the present intracoastal waterway from the vicinity of Apalachee Bay, Florida, to Corpus Christi, Tex. and its extension to the vicinity of the Mexican border.

### MISSISSIPPI RIVER SYSTEM

Works for the improvement of the channel of the river proper have been executed at various places below Cairo and levees built for flood control from Rock Island, Ill. to near Head of Passes, La., 484 miles above to 1,070 miles below Cairo. Below Cairo, revetment is now in place on 118 miles of river bank, and 35 miles of permeable dikes are complete for bank stabilization and channel regulation. The 2,500-mile levee system now contains over 1,000,000,000 cubic

yards of earth, and when completed will aggregate about 1,200,000,000 cubic yards. During the fiscal year 1941 there were 39,000,000 cubic yards of material placed in the levees. The Bonnet Carre spillway structure, completed in 1931, was operated for the first time during the high water of 1937. The Birds Point-New Madrid floodway was also brought into successful operation during that emergency. A navigable channel is available throughout the main river from Minneapolis, to the Gulf of Mexico. Below Alton, Ill., the channel is maintained by open river works. In the 650 miles of river above Alton to Minneapolis, a system of low-head dams and locks provide depths adequate for modern barge navigation.

The system of six locks and dams on the Ouachita and Black rivers provide depths of 6½ feet at low water, a distance of 351 miles, from the Red River to Camden, Ark. The Red River proper and the Arkansas River have been improved throughout for light-draft navigation, a total length of more than 1,000 miles. Although improvement of the Missouri River to date has secured a 6-foot navigable channel from the Mississippi to Kansas City, Mo., and lesser depths upstream, the storage available in the future from the Fort Peck Reservoir is expected to furnish a desirable increase in that depth. The Fort Peck Dam and Reservoir were constructed chiefly for the purpose of establishing 8- to 9-foot navigation below Sioux City, Ia. The reservoir with a maximum storage capacity of 19,412,000 acre-feet will furnish additional protection to the flood plane of the river for many miles downstream by controlling the amount of flood water passing the dam and impound water for purposes other than navigation.

### MISSISSIPPI FLOOD CONTROL

The Mississippi River rises in the vicinity of Lake Itasca, Minnesota, and flows in a general southerly direction 2,434 miles to the Gulf of Mexico. From Cape Girardeau, Missouri to the Gulf of Mexico, the river flows through the fertile lands of an

## WATERWAYS AND HARBORS

alluvial plain about 50 miles wide and 600 miles in length. Without levees, some 20,000,000 acres would be subject to overflow by river floods. The principal tributaries of the Mississippi are the Ohio, entering the river at Cairo, Ill.; the Missouri, entering above St. Louis; the Arkansas and the White, entering the lower Mississippi above Arkansas City, Ark.; and the Red, which connects with the lower river in the vicinity of Angola, La. The basins of these tributaries, with that of the upper Mississippi, are the chief sources of flood waters of the lower Mississippi. The entire area drained by the system is about 1,240,000 square miles, equal to 41 per cent of the area of the United States.

### NATIONAL FLOOD CONTROL

General flood control legislation provided, up to Jan. 1, 1943 authorizations totaling \$930,400,000 for the construction of nearly 500 reservoirs and local flood protection projects widely dispersed throughout the entire United States, exclusive of the large project authorized separately for the Alluvial Valley of the Mississippi River. The projects for general flood control are integral parts of comprehensive and coordinated plans for the beneficial development of the water resources of the nation, and they provide economic flood protection for a large number of centers of population and for many thousands of acres of rich agricultural lands. Many of the approved reservoirs are suitable for the advantageous development of multiple-purpose projects for flood control in combination with hydro-electric power and other water uses.

### FLOOD CONTROL CONSTRUCTION

Construction work on the Federal program for general flood control has been in progress since 1937, when the first funds for that purpose were appropriated by Congress. Up to the end of 1942, 36 reservoirs and 89 local protection projects have been placed

in operation. During 1942, 41 dams and 105 projects for local flood protection were under construction. The flood control program is thoroughly coordinated with the war effort of the nation. Although all flood control projects, being directly beneficial to the national economy, are directly or indirectly related to the war effort, the only new works initiated in 1942, were seven projects determined to have direct value for the conduct of the war. Of these, three are multiple-purpose dam and reservoir projects to supply additional power for war industries; one is a multiple-purpose dam and reservoir project to provide flood protection and increased water supply for an important steel producing region; and two are local protection projects to give direct flood protection for industries supplying material for the Army and Navy.

In line with the Federal policy of curtailing many activities not essential to the war, all projects which were under way at the beginning of the war emergency are being brought to completion or to a safe point of suspension as rapidly as possible, without interference with work of direct importance to the war, and with due regard to the necessity for protecting lives, the work already accomplished, and the Federal investment in that work. In 1942, 17 local protection projects were completed and 14 reservoirs were placed in operation. Steps were taken to suspend construction work on all or parts of numerous other projects. Many of the suspended projects do, however, provide substantial amounts of flood protection, even though they will not be fully effective until the construction work is entirely completed. Plans and drawings are being completed for the remaining portions of the suspended projects and for many additional projects not yet initiated in order that actual construction operations on a large scale can be undertaken without delay at the end of the war to assist in cushioning the inevitable shock of widespread unemployment.

## IX. DEFENSE AND ARMAMENT

### PERIODICAL PUBLICATIONS

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| <i>Army and Navy Journal</i><br>1701 Connecticut Ave. N.W., Wash-<br>ington, D. C.   | <i>Marine Corps Gazette</i><br>United States Marine Corps, Wash-<br>ington, D. C.   |
| <i>Army and Navy Register</i><br>511 Eleventh Street N.W., Wash-<br>ington, D. C.    | <i>Military Engineer</i><br>808 Mills Building, Washington,<br>D. C.                |
| <i>Army Ordnance</i><br>806 Mills Building, Washington,<br>D. C.                     | <i>Quartermaster Review</i><br>923 Fifteenth Street N.W., Wash-<br>ington, D. C.    |
| <i>Cavalry Journal</i><br>1624 H Street N.W., Washington,<br>D. C.                   | <i>U. S. Coast Guard Magazine</i><br>462 Indiana Ave. N. W., Washing-<br>ton, D. C. |
| <i>Coast Artillery Journal</i><br>1115 Seventeenth Street N.W.,<br>Washington, D. C. | <i>U. S. Navy Magazine</i><br>Ocean Center Bldg., Long Beach,<br>Calif.             |
| <i>Field Artillery Journal</i><br>1624 H Street N.W., Washington,<br>D. C.           | <i>Waterways Journal</i><br>1605 Chemical Building, St. Louis,<br>Mo.               |
| <i>Infantry Journal</i><br>1115 Seventeenth Street N.W.,<br>Washington, D. C.        |   |

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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#### SERVICE SOCIETIES

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|---|---|
| AMERICAN LEGION, THE, National<br>Headquarters, 777 N. Meridian St.,<br>Indianapolis, Ind.          | SOCIETY OF AMERICAN MILITARY EN-<br>GINEERS, Mills Bldg., Room 808,<br>Washington, D. C.            |
| AMERICAN REMOUNT ASSN., 810 18th<br>St., N.W., Washington, D. C.                                    | SOCIETY OF NAVAL ARCHITECTS & MA-<br>RINE ENGINEERS, 29 W. 39th St.,<br>New York City.              |
| AMERICAN SOCIETY OF NAVAL ENGI-<br>NEERS, Bureau of Ships, Navy De-<br>partment, Washington, D. C.  | UNITED STATES CAVALRY ASSN., 1624<br>H St., N.W., Washington, D. C.                                 |
| ARMY ORDNANCE ASSN., Mills Bldg.,<br>17th St. and Pennsylvania Ave.,<br>Washington, D. C.           | UNITED STATES FIELD ARTILLERY ASSN.,<br>1624 H St., N.W., Washington,<br>D. C.                      |
| ASSOCIATION OF MILITARY SURGEONS OF<br>THE UNITED STATES, Army Medical<br>Museum, Washington, D. C. | UNITED STATES INFANTRY ASSN., 1115<br>17th St., N.W., Washington, D. C.                             |
| CHEMICAL WARFARE SERVICE, Edge-<br>wood Arsenal, Maryland.  | UNITED STATES NAVAL INSTITUTE, An-<br>napolis, Md.  |
| NAVY LEAGUE OF THE UNITED STATES,<br>INC., Mills Bldg., Washington, D. C.                           | <b>PATRIOTIC AND HEREDITARY</b>   |
| QUARTERMASTERS' ASSN. OF THE<br>UNITED STATES, 923 15th St., N.W.,<br>Washington, D. C.             | COLONIAL DAMES OF AMERICA, 421 E.<br>61st St., New York City.                                       |
| RESERVE OFFICERS' ASSN. OF THE<br>UNITED STATES, 1726 Pennsylvania<br>Ave., N.W., Washington, D. C. | DAUGHTERS OF 1912, NATIONAL SO-<br>CIETY, U. S., 1461 Rhode Island<br>Ave., N.W., Washington, D. C. |
|   | GENERAL SOCIETY OF COLONIAL WARS,<br>196 Beacon St., Boston, Mass.                                  |
|   | GENERAL SOCIETY OF MAYFLOWER DE-  |

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

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| <p>SCENDANTS, 120 E. 71st Street, New York City.</p> <p>MILITARY ORDER OF FOREIGN WARS OF THE U. S., 15 Broad St., New York City.</p> <p>MILITARY ORDER OF THE LOYAL LEGION OF THE U. S., 1805 Pine Street, Philadelphia, Pa.</p> <p>MILITARY ORDER OF THE WORLD WAR, 1700 Eye St., N.W., Washington, D. C.</p> <p>NATIONAL SECURITY LEAGUE, 45 W. 45th St., New York City.</p> <p>NATIONAL SOCIETY OF THE DAUGHTERS OF THE AMERICAN REVOLUTION, Memorial Continental Hall, Washington, D. C.</p> <p>NATIONAL SOCIETY OF THE SONS OF THE AMERICAN REVOLUTION, 1227 16th St., N.W., Washington, D. C.</p> | <p>NAVAL AND MILITARY ORDER, SPANISH-AMERICAN WAR VETERANS, 184 State House, Boston, Mass.</p> <p>PILGRIM SOCIETY, Pilgrim Hall, Court St., Plymouth, Mass.</p> <p>SOCIETY OF THE CINCINNATI, INC., 2118 Mass. Ave., Washington, D. C.</p> <p>SONS OF CONFEDERATE VETERANS, 609 Law Bldg., Richmond, Va.</p> <p>SONS OF UNION VETERANS OF THE CIVIL WAR, Colonial Trust Bldg., Reading, Pa.</p> <p>UNITED CONFEDERATE VETERANS, 1528 Lowerline St., New Orleans, La.</p> <p>UNITED SPANISH WAR VETERANS, INC., 40 G St., N.E., Washington, D. C.</p> <p>VETERANS OF FOREIGN WARS OF THE U. S., Broadway at 34th St., Kansas City, Mo.</p> |
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# PART FOUR

## ECONOMICS AND BUSINESS

### DIVISION X

#### BUSINESS AND FINANCE

#### ECONOMIC AND BUSINESS CONDITIONS

By S. S. HUEBNER  
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##### **VOLUME OF BUSINESS OCCASIONED BY WAR DEMANDS**

The previous year's account explained that "nearly all outstanding business indices showed a remarkable increase in business activity during 1941, with highest levels well maintained to the end of the year." For 1942 the trend continued steadily upward, nearly all of the leading indices showing a considerable gain over 1941 and with the highest levels again well maintained to the end of the year.

The iron and steel business operated at virtually full capacity, with the production of steel ingots and castings at the close of the year about 6 per cent larger than at the same time in 1941. Ore consumption during the first 11 months of the year also increased by nearly 13 per cent, as compared with the corresponding period of the year before. Railroad freight traffic was larger than in 1941 by 33 per cent as regards ton mileage, and operating income, as well as net income, were greatly improved. While imports to the United States were necessarily very low, owing to the war, exports of merchandise were 56 per cent larger than during the previous year. Electric output was the largest on record consistently week by week, and fully 13 per cent ahead

of 1941. Bank clearings maintained their stupendous total throughout the year, and at the close about equalled those of the previous year.

The volume of farm products exceeded those of 1941 by about 9 per cent, and estimates place the farm income at approximately \$10,000,000,000 for 1942, or \$1,000,000,000 in excess of the 1919 record. Moreover, the wholesale price index (Bureau of Labor Statistics) showed an improvement for the year from 94 (Dec. 20, 1941) to 100.5 for Dec. 12, 1942, and was 26 per cent higher than on the same date in 1940. Substantial increases were recorded in nearly all groups of commodities where governmental price levels had not been established. The automobile industry would seem to be an outstanding exception in the manufacturing field, yet quite the contrary is true when we reflect that the enormous decline in the output of passenger cars and light trucks was much more than counterbalanced by increased production of tanks, guns, aircraft parts, and other munitions, to which the whole business had been converted. As compared with peacetime production of non-military items in 1941, it is estimated that the automobile industry has enlarged its output by

## ECONOMIC AND BUSINESS CONDITIONS

way of war material production by at least 32 per cent.

While the showing for business during 1942 is excellent statistically, sight must not be lost of the fact that a very large part of the year's splendid volume of activity is to be attributed to war orders or artificial governmental action, as distinguished from a natural normal business demand. Along many lines business activity was severely disrupted by governmental demands in the form of priorities in materials, price levels, or other restrictions, but taken as a whole, and this is certainly the case with the larger business groups, general business indices showed large gains for the year, despite the large gains of the previous year. Where declines occurred they were, with very few exceptions, moderate in extent, and in nearly all cases were attributable to governmental restrictions, shortages in man power, inability to obtain raw materials for manufacture, and handicaps in transportation facilities.

### SECURITY MARKET TRENDS

The security market, as was the case in 1941, seems to be about the only leading business whose course did not follow the excellent trend of business generally. While bonds remained consistently at an exceptionally high average level, the stock market price level throughout the year remained low, and, despite the enormous volume of production, declined 12 per cent during the first third of the year and subsequently improved by 21 per cent above the average price reached for the month of April. Moreover, stock market transactions were the lowest since 1914, the volume of transactions during 1942 declining by nearly 27 per cent beyond even the exceptionally low year of 1941. Dividend payments of common shares listed on the New York Exchange declined over 8 per cent during the year, as compared with 1941, and it is notable that the chief sufferers were the predominantly war stocks, a situation very different from the "War Baby" era of the First World

War. Probably the two factors which affected war stocks most adversely were (1) high taxes which greatly depleted the available fund for dividend distribution despite the large current earnings, and (2) the necessity of using much of current earnings as capital to effect a readjustment of manufacturing processes from peace to war requirements. In fact, at the close of the year, with its improved war news, it became quite noticeable that the greatest price improvement occurred in those stock issues whose prospects were most likely to gain from a return to peace conditions. As explained later, new capital flotations of a non-governmental character also remained exceptionally low throughout the year.

### AGRICULTURE

As was the case in 1941, the agricultural situation for 1942 may be described as record-breaking from an income standpoint. Estimates place this income, including government payments, at \$9,800,000,000 for 1942, or about \$1,000,000,000 in excess of the previous 1919 record. To an increasing extent the factors governing demand and prices were subjected to wartime controls. Many exceptional difficulties also existed with respect to farm labor, equipment, and transportation and marketing facilities, but the greatest problem of all for the year, and likely to be even greater, is the securing of an adequate labor supply, agriculture having great difficulty in preventing the flow of its labor supply to defense industries with their more attractive scale of wages. This problem, it is felt, will become exceedingly acute in the spring, and will likely be one of the greatest difficulties confronting this nation. To quote the *Guaranty Survey* (Sept. 28, 1942):

"Estimated gross farm income, including Government payments, was approximately fourteen billion dollars last year; and the rise of 25 per cent from the official figure for 1940 is the largest percentage advance in any year since 1917. The gross total is the highest sum recorded since 1920.

## X. BUSINESS AND FINANCE

With cash receipts from farm marketings for the first seven months of this year 43 per cent above the corresponding amount in 1941, the 1942 cash total is expected to be substantially more than fifteen billion dollars. Although farm costs of production have risen since the war began, the additional gross income received undoubtedly has resulted in substantial increases in net earnings. The income figures alone, however, do not measure fundamental variations in the economic status of farmers. The most informative statistical indication of the significance of the growth of farm income is the Department of Agriculture's tabulation of prices of agricultural products in comparison with other prices representative of farmers' expenditure, combined costs of production, and costs of living. Official indices of these values, expressed as a ratio of prices received to prices paid, or the buying power of farm products, showed a rise of 70 per cent from 1932 to 1937, followed by a sharply reduced level that continued until the war began. The average index number of 78 for 1940 compared with one of 74 for 1939; and the figure for 1941 registered a further rise of 17 per cent. From September, 1941, to July, 1942, the index was fairly stable at an average of 99 per cent of parity."

Prices of leading farm products in 1942 showed a substantial increase all along the line with scarcely an exception. Thus, using closing wholesale cash prices for commodities in the New York market (*The New York Times*), prices on Jan. 4, 1943 compared as follows with the price on Jan. 5, 1942: wheat, No. 2, red, per bushel, \$1.64 $\frac{7}{8}$  as compared with \$1.43 $\frac{3}{4}$ ; corn, No. 2 yellow, per bushel, \$1.11 $\frac{3}{8}$  as compared with \$0.97; rye, No. 2, Western, per bushel, \$0.92 $\frac{1}{8}$  as compared with \$0.89 $\frac{1}{4}$ ; oats, No. 2 white, per bushel, \$0.63 $\frac{1}{4}$  as compared with \$0.69 $\frac{5}{8}$ ; cotton, middling, per pound, \$0.2121 as compared with \$0.1917; butter, creamery, 92-score, per pound, \$0.46 $\frac{3}{4}$  as compared with \$0.35 $\frac{1}{2}$ ; eggs, mixed color, graded first, per dozen, \$0.37 $\frac{3}{4}$  as

compared with \$0.34; lard, Middle West, per pound, \$0.1392 $\frac{1}{2}$  as compared with \$0.1120; pork, mess, per barrel, 200 pounds, export, \$41.25 as compared with \$30.12 $\frac{1}{2}$ ; beef, family, per barrel, 200 pounds, export \$33 as compared with \$27.37 $\frac{1}{2}$ .

### MANUFACTURING AND MINING INDUSTRIES

In these industries, where the output of product is more subject to control than in agriculture, price changes during 1942 were not considerable. In most instances, where no maximum price had been established under government regulations, changes represented increases in prices. In a very considerable number of leading products, however, no price change occurred because of maximum price limits established by the Government. Comparing December, 1942 with the corresponding quotations of 1941, the following price changes may be selected from many listed in the *Guaranty Survey* (Dec. 28, 1942). [An asterisk sign is used wherever a maximum price was established under government regulations.] Coffee, 13 $\frac{3}{8}$ ¢\* per pound as compared with 13 $\frac{1}{2}$ ¢; copper, 11.87 $\frac{1}{2}$ ¢\* per pound as compared with 11.87 $\frac{1}{2}$ ¢\*; hides, 15 $\frac{1}{2}$ ¢\* per pound as compared with 15 $\frac{1}{2}$ ¢\*; pig iron, \$23.50\* per gross ton as compared with \$23.50\*; steel billets (Pittsburgh), \$34.00 per gross ton as compared with \$34.00; lead, 6.50¢\* per pound as compared with 5.85¢; petroleum (Pennsylvania), \$3.00\* per barrel as compared with \$2.75; rosin, \$3.43 per 280 pounds as compared with \$2.91; rubber, 22 $\frac{1}{2}$ ¢\* per pound as compared with 22 $\frac{3}{8}$ ¢; sugar 3.74¢\* per pound as compared with 3.50¢\*; tin, 52.00¢\* per pound as compared with 52.00¢\*; wool, 1.21¢ per pound as compared with 1.12¢; and zinc, 8.25¢\* per pound as compared with 8.25¢.

### NEW CAPITAL FLOTATIONS

New corporate financing (distinguished from refunding issues) took place during 1942 on a considerably smaller scale than was the case during 1941. The total new capital financing for the first nine months of the year

## ECONOMIC AND BUSINESS CONDITIONS

aggregated \$614,069,000 as compared with \$770,161,000 for the same period of 1941, and, for the corresponding periods, with \$457,513,000 for 1940, \$310,737,000 for 1939, \$315,947,000 for 1938, and \$1,154,135,000 for 1937. The extreme smallness of this year's new capital flotations is also indicated by comparing it with the yearly totals of \$1,215,000,000 for 1936, \$4,494,000,000 for 1930, and \$8,639,000,000 for the banner year, 1929. However, the 1942 record still greatly exceeds the extraordinarily small figures presented during the height of the depression period, 1932-35, when the yearly total ranged only between \$170,000,000 and

\$404,000,000. It should also be noted that a considerable monthly fluctuation in new capital flotations took place during 1942. Thus for July the total reached only \$27,510,000, whereas for May the monthly total exceeded \$103,000,000. The total of refunding issues for the first nine months of the year also showed a remarkable decline, the total standing at only \$296,160,000, in contrast to the corresponding figures of \$1,354,000,000 for 1941 and \$1,252,000,000 for 1940. This 1942 figure is the smallest one on record since 1923, with one exception, namely, 1933 when the total stood at \$220,866,000.

### CORPORATE FINANCING

	1941		1942	
	Capital	Refunding	Capital	Refunding
January.....	\$ 52,929,000	\$271,388,000	\$ 87,186,000	\$ 82,846,000
February.....	31,550,000	227,012,000	56,709,000	18,901,000
March.....	86,634,000	115,288,000	78,585,000	39,209,000
April.....	39,470,000	107,181,000	97,114,000	18,527,000
May.....	63,874,000	197,102,000	103,092,000	5,807,000
June.....	90,467,000	113,390,000	76,827,000	61,686,000
July.....	43,569,000	86,468,000	27,510,000	32,719,000
August.....	327,403,000	74,427,000	58,600,000	6,018,000
September.....	34,265,000	161,391,000	28,446,000	30,437,000
October.....	103,661,000	97,050,000		
November.....	89,427,000	42,384,000		
December.....	76,793,000	59,062,000		

Source: *Survey of Current Business*, November issue of each year.

### YEARLY TOTALS

	Capital	Refunding
*1942	\$ 614,069,000	\$ 296,160,000
1941	1,040,042,000	1,552,143,000
1940	736,382,782	2,026,195,056
1939	371,249,537	1,807,623,508
1938	871,998,950	1,267,245,739
1937	1,225,012,213	1,208,679,946
1936	1,214,950,299	3,416,995,382
1935	403,569,958	1,863,858,807
1934	178,257,949	312,836,500
1933	160,717,178	220,866,478
1932	325,361,625	318,533,720
1931	1,763,448,723	825,516,700
1930	4,944,403,166	528,875,877
1929	8,649,439,560	1,386,921,569
1928	6,079,602,416	1,738,274,615
1927	5,391,008,544	1,928,187,260
1926	4,357,002,750	942,550,970
1925	4,100,725,167	637,384,524
1924	3,322,295,764	516,275,300
1923	2,702,496,155	530,343,942

\* Nine months.

Source: *Commercial and Financial Chronicle*. 1941 and 1942 figures from *Survey of Current Business*.

### BANK CLEARINGS

The 1941 account showed an extraordinary increase in bank clearings toward the end of the year as compared with 1940, the increase amounting to 17.3 per cent. The 1942 bank clearings substantially maintained the high record of 1941, the grand total for the week ended Dec. 19 (*Commercial and Financial Chronicle*) for 111 cities being \$9,033,461,721 as compared with \$9,350,670,326 for the corresponding week of 1941, a decrease of only 3.4 per cent. For the corresponding week of 1940 and 1939, the totals were \$8,095,039,603 and \$7,215,579,228, respectively. Exclusive of New York City, the nations Federal Reserve Districts showed total bank clearings of \$4,611,649,078, an increase of 4.2 per cent as compared with the 1941 corresponding week's total of



## X. BUSINESS AND FINANCE

\$4,427,152,705. The huge showing for 1942 (exclusive of New York City) also compares with \$3,268,301,414 and \$3,048,843,014 for the corresponding week of 1940 and 1939, respectively.

The respective gains and losses for each of the 12 Federal Reserve Districts for the year 1942 in comparison with 1941 are shown by the following table:

Federal Reserve District	1942 (millions)	1941 (millions)	Increase or Decrease (%)
First—Boston (12 cities).....	454	473	— 4.0
Second—New York (12 cities).....	4,598	5,092	— 9.7
Third—Philadelphia (10 cities).....	661	727	— 9.2
Fourth—Cleveland (7 cities).....	651	604	+ 7.6
Fifth—Richmond (6 cities).....	287	258	+10.9
Sixth—Atlanta (10 cities).....	375	326	+14.8
Seventh—Chicago (17 cities).....	592	636	— 7.3
Eighth—St. Louis (4 cities).....	310	275	+12.7
Ninth—Minneapolis (7 cities).....	190	175	+ 8.7
Tenth—Kansas City (10 cities).....	274	231	+18.7
Eleventh—Dallas (6 cities).....	133	126	+ 5.4
Twelfth—San Francisco (10 cities).....	509	424	+20.0
Grand Total (111 cities).....	9,033	9,351	— 3.4
Outside New York City.....	4,612	4,427	+ 4.2

Source: *Commercial and Financial Chronicle*, Dec. 28, 1942.

### SECURITY MARKETS

As in the case of 1941, the security market throughout 1942 was extremely dull—the dullest since 1914—and the price average remained at a very low level relatively. Moreover, no sensational price movements occurred during the year. In view of the exceptional industrial activity and the large earnings of corporations, the 1942 stock market acted entirely contrary to expectations.

For the year as a whole, the stock price level showed two distinct movements, one a decline from January to April of slightly more than 12 per cent, and a rise during the last two-thirds of the year amounting to approximately 21 per cent. At the close of the year the price level was about 6.2 per cent higher than at the beginning of the year. The stock market apparently endeavored to balance unfavorable factors relating to the future against existing favorable industrial news. (See "The Security and Money Markets" p. 387.)

### THE RAILROAD INDUSTRY

The year 1941, as explained in last year's account, represented a decided change in the unfavorable railroad situation of previous years over a

long period. Fortunately, 1942 shows a further decided improvement. According to the Association of American Railroads' announcement, revenue freight car loadings in 1942 totaled 42,818,739 cars, an increase of only 1.3 per cent over the preceding year, but revenue freight car loadings do not tell the whole story. Note must be taken of the fact that ton mileage increased nearly 33 per cent over 1941 owing to the heavier loading of cars and the longer haul per ton. It should also be noted that car loadings this year were 6,460,885 cars, or 17.8 per cent greater than during 1940. Note should also be taken of the fact that total loadings increased greatly for all leading groups of commodities, namely, 7.8 per cent for grain products, 14.4 per cent for live stock, 13.2 per cent for coal, 7.9 per cent for coke, 12.0 per cent for forest products, 12.3 per cent for ore, and 7.1 per cent for miscellaneous freight. Only in the division of merchandise for less than car load lots was there a decline of 30.6 per cent, which brought the total increase of 1942 down to only 1.3 per cent above the 1941 figure.

With respect to railroad profits during 1942, the indications are also for a large gain over the preceding year.

## ECONOMIC AND BUSINESS CONDITIONS

According to the Association of American railroads, Class I railroads had, during the first 11 months of 1942, a net income of \$812,000,000 after interest and rentals, as compared with \$444,620,000 in the same period of 1941. For the first 11 months, the net operating income of these roads amounted to \$1,309,000,000, compared with \$918,954,000 in the corresponding period of 1941. Referring to the earnings situation of American railroads, the *Guaranty Survey* (Oct. 26, 1942) makes the following statement:

"For a number of reasons the rise in earnings, while substantial, has been less sharp than might have been expected in view of the record-breaking traffic. The general trend of freight rates and passenger fares has been downward for many years, and the increases granted early in 1942 were not sufficient to offset the rise in operating expenses due to increasing wage rates and higher costs of material and equipment. Taxes have more than doubled in the last year and have reached a point where they absorb nearly half of the net revenue from railway operations and are more than double the amount of fixed charges. These deductions will prevent the net income of the railroads this year from equaling the figures of the later nineteen-twenties, although the financial results of the year's operations will undoubtedly be the best reported since before the depression.

"The ability of the railroads to maintain a much stronger financial position than they did during the last war is due in part to superior operating efficiency and in part to the greater stability of price and wage levels. The rise in operating expenses from 1917 to 1920 was so swift that, even though unprecedented increases in freight rates and passenger fares were granted, these were not sufficient to prevent net income from declining practically to the vanishing point. Few branches of business are so vitally interested in the success of the price stabilization program as are the railroads."

### EXPORTS AND IMPORTS

During 1942 this branch of economic activity showed a further substantial improvement over 1941 as regards exports, just as the latter year showed a substantial gain over 1940. As explained last year, a very large portion of the improvement is traceable to the export of war materials. Exports of merchandise for the first 11 months of 1942 totaled \$7,019,000,000. This figure compares with exports of \$4,494,000,000 during the corresponding period of 1941, and with annual totals of \$4,022,000,000 for 1940, \$3,177,000,000 for 1939, \$3,094,000,000 for 1938, \$3,349,000,000 for 1937, and \$5,241,000,000 for the record year 1929. Imports of merchandise for the first 11 months of 1942 totaled only \$2,385,000,000, as compared with \$3,001,000,000 for the corresponding period of 1941, and with annual totals of \$2,626,000,000 for 1940, \$2,318,000,000 for 1939, \$1,960,000,000 for 1938, \$3,084,000,000 for 1937, and \$4,399,000,000 for the record year of 1929.

It will be noted that for the first 11 months of 1942, exports of merchandise exceeded those of 1941 for the same period by \$2,525,000,000. Imports of merchandise for the first 11 months of 1942, on the other hand, were smaller than those of the corresponding period in 1941 by \$616,000,000. Moreover, exports of merchandise for 1942 (first 11 months) were nearly three times as large as the imports, and exceeded imports by \$4,634,000,000. Such an unusual situation clearly indicates abnormal conditions arising out of the war. These conditions have impeded imports to this country, while exports were greatly augmented by the shipment of large quantities of war materials to foreign nations engaged in war. These shipments were so large as to make the exports of the first 11 months of the year (\$7,019,000,000) far greater than the total exports of the banner year of 1929 (\$5,241,000,000).

### THE AUTOMOBILE INDUSTRY

Production of automobile passenger cars and trucks during 1942 has neces-

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sarily experienced an enormous decline as compared with recent years, but no published data are available. As explained in 1941, the closing months of that year were already affected by the Government's prohibition of the sale of new passenger automobiles and light trucks. Since that time the Government has exerted the greatest pressure to convert the full resources of the country's automobile plants into an armament-producing industry.

While the manufacturing of automobiles heretofore constituted one of the largest branches of manufacturing in the nation, it must not be assumed that the aforementioned decline in the manufacture of passenger cars and trucks means a corresponding subtraction to the nation's total manufacture output. Quite the contrary is true. The business has been converted into a new phase of war production, particularly along the line of tanks, guns, and aircraft parts. According to *Automotive War Production* (September, 1942), "Production and employment in the automotive industry now are substantially above the highest levels ever attained in peacetime." Current production of the industry with respect to weapons of war is placed at an "annual rate of \$5,400,000,000, or 32 per cent ahead of the average rate of production of non-military items in 1941—the peak peacetime year of the automotive industry." By September of 1942, payrolls of automotive plants rose rapidly because approximately 40,000 new workers were hired monthly. It was estimated that 772 motor vehicle, body, parts, and tool and die plants had a total of 809,000 employees in the manufacture of munitions, a total more than 20 per cent above a year ago, and 6 per cent above the previous high point in May, 1941.

### IRON AND STEEL OPERATIONS

In the iron and steel business, 1942 showed operations at virtually full capacity, occasioned largely by war demands. Production of steel ingots and castings by the United States

steel industry during 1942 established a new record of 86,029,209 tons, exceeding by 3,255,000 tons the previous record production of 82,836,946 tons in 1941. The year's production, it is reported by the American Iron and Steel Institute, was 70 per cent above production in the record year of the First World War. According to the *Commercial and Financial Chronicle* (Dec. 31, 1942), "The American Iron and Steel Institute, on December 28, announced that the operating rate of steel companies having 90% of the steel capacity of the industry will be 98.2% of capacity for the week beginning December 28, compared with 96.1% one year ago. . . . The operating rate for the week beginning December 28 is equivalent to 1,679,900 tons of steel ingots and castings, compared to 1,681,600 tons one month ago, and 1,587,800 tons one year ago." During November, 1942 blast furnaces consumed 7,227,497 gross tons of Lake Superior iron ore, and up to Dec. 1 consumption had aggregated 76,173,610 tons, compared with 67,707,421 tons in the same period in 1941. Ore on hand at lake docks and furnaces Dec. 1 totaled 45,031,008 tons against 38,839,932 tons a year ago.

### ELECTRIC OUTPUT

According to the Edison Electric Institute, the production of electricity by the electric light and power industry of the United States totaled 3,675,000,000 kwh for the week ended Dec. 26, 1942. This output exceeded that of the corresponding week of 1941 by 13.6 per cent, whereas the corresponding week of 1941 exceeded that of the same week of 1940 by 15.6 per cent. During all of the last quarter of the year, the weekly output for 1942 consistently exceeded that of 1941, week by week, the increase ranging from a minimum of 10.3 per cent to a maximum of 16.9 per cent. The output of 3,675,000,000 kwh for the week of Dec. 26, 1942, compares with 3,234,000,000 kwh for the corresponding week of 1941, 2,755,000,000 in 1940, 1,415,000,000 in 1932, and 1,637,000,000 in 1929.



## ECONOMIC AND BUSINESS CONDITIONS

### BUILDING CONSTRUCTION

Using the figures of the F. W. Dodge Corporation for 37 eastern states, building contracts during the first 11 months of 1942 totaled 1,191,554 (in thousands of square feet of floor space) as compared with 892,469 during the corresponding period in 1941. The first 11-month record of 1942 compares with full annual figures of 942,967 in 1941, 688,595 in 1940, and with the low figure of 146,332 in 1933, and the previous peak figure of 959,320 in 1928.

According to the latest announcement of the Labor Bureau, November building permit valuations were down 30 per cent from the corresponding month in 1941, whereas for 11 months of 1942 there was a total decrease of 41 per cent from the corresponding figure in 1941. As explained last year, the curtailment is largely due to government regulations whereby certain materials, such as steel and copper, are made unavailable for building purposes unless construction is deemed necessary for direct national defense, or is essential to the health and safety of the people. According to the Bureau of Labor's report, the percentage change from November, 1941 to November, 1942 amounted to a decrease of 51.7 per cent in new residential construction, a decrease of 85.4 per cent in new non-residential construction, and a decrease of 45.5 per cent in additions, alterations, and repairs. For all three types of construction a decrease of 66.0 per cent is indicated for the aforementioned period. As stated by the Secretary of Labor:

"November building permit valuations were 66% lower than during the corresponding month in 1941. Indicated expenditures for all types of buildings were lower during the current month than during November, 1941. . . . During the first eleven months of 1942, permits were issued in reporting states for buildings valued at \$1,658,907,000, a decrease of 41% as compared with the same period in 1941. Permit valuations for new residential buildings for the first eleven months of the current year amounted to \$756,978,000, a de-

cline of 45% as compared with the same period of 1941. Over the corresponding period new non-residential buildings showed a decrease of 39%, while the value of additions, alterations, and repairs fell off 31%."

### COMMERCIAL FAILURES

The 1942 record of commercial failures bids fair to be the best on record for a long series of years, and represents a distinct continuation of the improving business failure situation during the past six years. The number of business failures reported by Dun and Bradstreet for the first nine months of 1942 (latest available) amounted to only 7,641, as compared with 9,299, 10,398, and 11,197 for the corresponding period of 1941, 1940, and 1939. The nine months record of 1942 (7,641) also compares with full yearly records of 12,836 for 1938, 9,490 for 1937, 9,607 for 1936, 12,244 for 1935, 12,091 for 1934, 19,859 for 1933, and 31,822 for 1932, the bottom year of the depression.

With respect to failure liabilities, 1942 also showed a remarkable record. For the first nine months of the year total liabilities of failures amounted to only \$81,387,000, as compared with \$106,105,000, \$124,088,000, and \$138,612,000 for the corresponding periods of 1941, 1940, and 1939. The 1942 nine months record (\$81,000,000) also compares with the following full yearly records of \$136,000,000 for 1941, \$167,000,000 for 1940, \$183,000,000 for 1939, \$247,000,000 for 1938, \$183,000,000 for 1937, \$203,000,000 for 1936, \$311,000,000 for 1935, \$334,000,000 for 1934, \$458,000,000 for 1933, and \$928,000,000 for 1932, the bottom year of the depression.

### CORPORATE DIVIDENDS

According to the New York Stock Exchange's monthly magazine *The Exchange*, dividends of 591 listed stock issues on which dividends were paid in 1942, 47 per cent paid the same dividend as in the preceding year, 31 per cent paid lower dividends, and 22 per cent increased their payments. In the aggregate, the dividend disbursement of all of the companies



## X. BUSINESS AND FINANCE

for the nine months ended Sept. 30 decreased 8.8 per cent from the total of 1941's corresponding figure. Stockholders of the 591 listed corporations received \$1,341,422,000 for the first three-quarters of 1942, as compared with \$1,470,124,000 during the corresponding period of 1941. The detailed figures furnished by the New York Stock Exchange show that the largest declines in dividends were in companies doing an enormous war business. Steel companies, exceeding all previous records of production, reduced their dividends by an average of 3 per cent. Mining companies, also very vital to war needs, made a reduction of 5 per cent, machinery and metal companies cut their dividends by 7½ per cent, and chemical companies by 15 per cent. Automobile companies, with their extraordinary record of war contracts, reduced dividend payments by as much as 35 per cent, and aviation companies, strategically important at this time, effected a reduction of 45 per cent. In various fields, however, there were substantial increases in dividends, and mention should be made particularly of electrical equipment companies with an increase of 29 per cent, farm machinery companies with an increase of nearly 11 per cent, and shipbuilding and operating companies with an increase of 18.3 per cent. In dwelling upon the report of the New York Stock Exchange, *The New York Times* offers the following comment:

"Probably the most obvious explanation of the falling off in dividends is the effect that wartime taxes have had on earnings. This was shown in a recent tabulation by the National City Bank, which found that for the first half of this year net income after taxes of 125 companies holding large war contracts was down 36% from a year ago, and 22% from the first half of 1940, when the war program had not begun. Another factor has been the necessity of providing for the negotiation of contracts, which makes it difficult for a company to know what its actual earnings will ultimately be. A third point has been the need to retain earnings to pro-

vide for working capital in handling the great volume of war contracts. In this war there has been nothing to parallel the stock market 'War Babies' of twenty-five years ago. On the contrary, the owners of corporate industry have been the first, and thus far the only, major group to take a cut in income."

### GENERAL BUSINESS INDICES

Using the figures of the Board of Governors of the Federal Reserve System (adjusted for seasonal variations), it would appear that October, 1942 (latest figures available) showed large increases along certain important lines, despite large gains of the previous year, as compared with the corresponding month of 1941. Thus the index for iron and steel production shows an increase from 192 to 207, for iron ore from 182 to 240, for machinery from 232 to 306, for transportation equipment from 269 to 493, for beehive coke from 462 to 524, for meat packing from 133 to 145, for wheat flour from 101 to 108, and for tobacco products from 128 to 145. In certain other important lines there were decreases for the year, often occasioned by governmental regulations or transportation handicaps, but with very few exceptions these declines were moderate in character. Reference should be made to plate glass production with a decline during the indicated period from 102 to 32, newsprint production from 110 to 107, leather products from 125 to 112, petroleum refining from 129 to 113, lubricating oil from 129 to 112, bituminous coal from 131 to 130, anthracite coal from 120 to 110, and crude petroleum from 128 to 123. The figures for important leading groups, stated in tabular form, follow on page 385.

### COMMODITY INDEX NUMBERS

Using the United States Department of Labor wholesale price index for main groups of commodities, 1942 experienced a substantial change upward in the price level for many groups of commodities. For the month of December (Dec. 12), 1942,

# ECONOMIC AND BUSINESS CONDITIONS

## INDUSTRIAL PRODUCTION

(1935-1939 Average = 100)

	Adjusted for Seasonal Variation			Without Seasonal Adjustment		
	Oct. 1942	Nov. 1941	Oct. 1941	Oct. 1942	Nov. 1941	Oct. 1941
<b>MANUFACTURES</b>						
Durable Goods						
Iron and Steel.....	207	192	192	207	192	192
Machinery.....	306	230	232	306	230	232
Transportation Equipment....	493	276	269	493	276	269
Plate Glass.....	32	105	102	37	120	117
Tin Consumption.....	(not available)	155	153	(not available)	155	151
Beehive Coke.....	524	410	462	524	410	462
Non-Durable Goods						
Textiles.....	156	156	150	156	156	150
Meat Packing.....	145	135	133	146	152	134
Wheat Flour.....	108	103	101	118	107	110
Sugar Meltings.....	(not available)	139	112	(not available)	114	109
Newsprint Production.....	107	110	110	107	113	110
Leather and Products.....	112	134	125	113	123	127
Petroleum Refining.....	(Sept.) 113	133	129	(Sept.) 116	134	132
Lubricating Oil.....	(Sept.) 112	137	129	(Sept.) 112	137	129
Tobacco Products.....	145	132	128	149	134	133
Minerals						
Bituminous Coal.....	130	127	131	145	145	146
Anthracite Coal.....	110	101	120	117	145	146
Petroleum, crude.....	123	132	128	121	128	127
Iron Ore.....	240	204	182	334	231	281
Zinc.....	(not available)	131	134	(not available)	131	134
Silver.....	(Aug.) 99	106	108	(Aug.) 97	106	107

Source: Federal Reserve Bulletin, December 1942.

## BUREAU OF LABOR STATISTICS WHOLESALE PRICE INDEX FOR MAIN GROUPS OF COMMODITIES

(1926 = 100)

Commodity Groups	Dec. 12 1942	Dec. 20 1941	Dec. 21 1940	Dec. 23 1939	Dec. 24 1938
All Commodities.....	100.5	94.0	79.7	79.3	76.6
Farm Products.....	112.0	96.0	69.1	67.8	67.2
Foods.....	104.0	91.6	73.4	72.1	72.2
Hides and Leather Products.....	118.4	115.5	102.7	104.4	93.8
Textile Products.....	96.6	91.4	74.2	77.8	65.2
Fuel and Lighting Materials.....	80.0	79.0	72.6	73.5	73.8
Metals and Metal Products.....	103.9	103.4	97.6	96.1	94.8
Building Materials.....	110.0	107.5	99.2	93.6	89.3
Chemicals and Drugs.....	99.5	91.7	77.7	78.0	76.4
Housefurnishing Goods.....	104.1	102.3	90.2	90.0	87.6
Miscellaneous.....	90.3	87.5	77.1	77.4	72.9
Raw Materials.....	104.7	93.3	72.9	73.3	70.3
Semi-manufactured Articles.....	92.5	90.0	80.7	82.1	75.1
Manufactured Products.....	99.8	95.1	83.1	82.2	80.2
All Commodities Other Than Farm Products.....	98.0	93.5	82.0	81.8	78.7
All Commodities Other Than Farm Products and Foods.....	96.2	93.9	84.4	84.3	80.5

Source: Commercial and Financial Chronicle, Dec. 24, 1942, page 2261.

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### INDEX NUMBERS OF COMMODITY PRICES

(Source: U. S. Dept. of Labor—*Standard Trade & Security*, "Current Statistics.")

(Source: U. K. Board of Trade—*Bank of England Statistical Summary*)

	U. S. Dept. of Labor		U. K. Board of Trade	
	1941	1942	1941	1942
January.....	80.8	96.0	149.5	156.4
February.....	80.6	96.7	150.0	158.5
March.....	81.5	97.6	150.8	158.8
April.....	83.2	98.7	150.9	159.6
May.....	84.9	98.8	151.3	160.7
June.....	87.1	98.6	152.4	159.8
July.....	88.8	98.7	153.2	161.1
August.....	90.3	99.2	153.2	159.9
September....	91.8	99.6	154.3	159.7
October.....	92.4		154.6	
November.....	92.5		155.2	
December.....	93.6		155.9	

this index stood for all commodities at 100.5, as compared with 94 for Dec. 20, 1941, and 79.7 for Dec. 21, 1940. For the year this index represents a price increase of nearly 7 per cent, and since December, 1940, of over 26 per cent. The Dec. 12, 1942, figure of 100.5 compares with total yearly averages of 87.3 for 1941, 78.6 for 1940, 77.1 for 1939, 78.6 for 1938, 86.3 for 1937, 80.8 for 1936, 80.0 for 1935, 75.0 for 1934, 66.0 for 1933, 64.9 for 1932, 73.0 for 1931, 100 for 1926, and 154.4 for 1920, the highest yearly average under this index since the beginning of the century. While favorable in comparison with any year of the preceding decade, the 1942 price level was still considerably under the levels to which we were accustomed prior to 1926. Certain exceptionally large increases might be noted for the year 1942, namely, for farm products as a group where the increase ranged from 96 to 112, foods with an increase from 91.6 to 104, and raw materials with an increase from 93.3 to 104.7.

It is interesting to note that in contrast to the American index, the United Kingdom Board of Trade index shows a much smaller increase for 1941, namely from 155.9 in December 1941, to only 159.7 for September, 1942 (the latest available). As explained last year, the United Kingdom index had its substantial rise during

1939-40, the figure increasing from 97.2 in January of 1939 to 148.6 in December of 1940. The index numbers of the United States Department of Labor for leading groups of commodities at the close of the year, compared with former years, are given in the table on page 385.

### YEARLY AVERAGES

#### U. S. Dept. of Labor

1904.....	59.7	1924.....	98.1
1905.....	60.1	1925.....	103.5
1906.....	61.8	1926.....	100.0
1907.....	65.2	1927.....	95.4
1908.....	62.9	1928.....	96.7
1909.....	67.6	1929.....	95.3
1910.....	70.4	1930.....	86.4
1911.....	64.9	1931.....	73.0
1912.....	69.1	1932.....	64.9
1913.....	69.8	1933.....	66.0
1914.....	68.1	1934.....	75.0
1915.....	69.5	1935.....	80.0
1916.....	85.5	1936.....	80.8
1917.....	117.5	1937.....	86.3
1918.....	131.3	1938.....	78.6
1919.....	138.6	1939.....	77.1
1920.....	154.4	1940.....	78.6
1921.....	97.6	1941.....	87.3
1922.....	96.7	1942.....	99.6
1923.....	100.6		(Sept. figure)

### LABOR CONDITIONS

With respect to labor conditions, using September as the basis (latest figure available), 1942 employment showed tremendous increases along certain important lines as compared with the same month of 1942, but declines of substantial amount in most fields. The situation was largely due to war necessities. Large increases may be noted in the machinery field, with an increase from 178.4 in September, 1941 to 219.7 in September, 1942, in transportation equipment with an increase for the corresponding period of from 195.4 to 329.1, in food products with an increase from 138.8 to 152.2, and in chemical and petroleum products from 145.7 to 161.2. In nearly all other fields there was a decline, namely, in iron and steel from 139.7 to 133.7, in lumber products from 77.3 to 69.4, in stone, clay, and glass products from 98.7 to 89.5, in textile products from 114.7 to 108.2, in leather products from 98 to 90.5, in paper and printing from 124.4 to 114.4, and in rubber products from 111.6 to 107.4.

With respect to payrolls, a large in-

## THE SECURITY AND MONEY MARKETS

crease is shown in nearly all of the leading industries. Some of the largest increases may be noted, namely, iron and steel with an increase from September, 1941 to September, 1942 of 170.6 to 194.3, in machinery production from 249.6 to 375.1, in transportation equipment from 252.9 to 555.3, in non-ferrous metals from 185.6 to 236.3, in food products from

170.5 to 209.3, in tobacco manufactures from 70.4 to 83.7, in chemical and petroleum products from 188.5 to 246, and in rubber products from 134.8 to 157.6. According to the latest available report of the Board of Governors of the Federal Reserve System, the showing for leading types of industries as regards both employment and payrolls, was as follows:

### FACTORY EMPLOYMENT AND PAYROLLS

	Employment						Payrolls		
	Adjusted for Seasonal Variation			Unadjusted for Seasonal Variation			Unadjusted for Seasonal Variation		
	Sept. 1942	Sept. 1941	Nov. 1940	Sept. 1942	Sept. 1941	Nov. 1940	Sept. 1942	Sept. 1941	Nov. 1940
<b>Durable Goods</b>									
Iron and Steel.....	133.7	139.7	118.9	134.4	140.5	119.3	194.3	170.6	125.8
Machinery.....	219.7	178.4	130.9	220.8	179.3	131.2	375.1	249.6	149.3
Transportation Equipment.....	329.1	195.4	143.7	326.4	255.3	146.0	555.3	252.9	166.1
Non-ferrous Metals.....	149.0	144.8	126.3	150.0	145.9	129.9	236.3	185.6	141.7
Lumber and Products.....	69.4	77.3	73.6	72.1	73.3	74.4	93.7	90.8	70.9
Stone, Clay and Glass.....	89.5	98.7	88.4	92.3	94.3	88.9	103.6	105.4	82.2
<b>Nondurable Goods</b>									
Textiles and Products.....	108.2	114.7	105.3	108.8	111.8	105.5	128.9	123.4	92.3
Leather and Products.....	90.5	98.0	93.8	91.4	98.9	87.0	110.5	101.6	68.5
Food and Products.....	152.2	138.8	132.4	179.3	163.2	132.5	209.3	170.5	128.8
Tobacco Manufactures.....	64.9	62.0	63.4	66.9	63.9	66.8	83.7	70.4	66.4
Paper and Printing.....	114.4	124.4	116.8	114.7	124.9	118.5	130.3	133.3	115.4
Chemical and Petroleum Products.....	161.2	145.7	124.1	163.4	147.6	125.6	246.0	188.5	139.7
Rubber Products.....	107.4	111.6	93.6	107.4	111.5	94.4	157.6	134.8	102.0

Source: *Federal Reserve Bulletin*. 1941 and 1942 figures from December, 1942, issue, pages 1236-1239. 1940 figures from May, 1941 issue, pages 446-449.

## THE SECURITY AND MONEY MARKETS

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### GENERAL CONDITIONS

This year's summary of security prices continues to show that, in this global contest, war no longer affords the speculative community the enthusiasm that was so prevalent during the First World War. Despite extraordinary developments, both domestic and international, 1942 stock market fluctuations were relatively small throughout the year, and the market ended with a price average slightly higher than at the beginning

of the year. The annual volume of transactions on the New York Stock Exchange was also the smallest since 1914, when, at the outbreak of the First World War, security exchanges were closed for a third of the year. Rarely was there a million-share day, and often daily quotations hovered around the quarter-million share mark. Moreover, throughout the year the price level of stocks may be described as exceptionally low, in view of the large corporate earnings



## X. BUSINESS AND FINANCE

and dividend distributions. In ever so many instances, leading listed common shares yielded dividends to the holders amounting to an 8 to 10 per cent return on the prevailing market price.

The year's market showed two main price tendencies, namely, a moderate and gradual decline from January to April, and subsequently a moderate and gradual increase from May to the end of the year. Combining all of the leading groups of stocks, the Standard Statistics Company figures indicate a decline during the first third of the year from 70.9 (for January) to 62.2 (for April), or slightly more than 12 per cent. During the last two-thirds of the year, a moderate rise carried the average upward from 62.2 (for April) to 75.3 (for November), or approximately 21 per cent. The November average, it should be noted, was slightly increased during the last month of the year, but the December figure is not yet available. On the basis of averages, 1942 ended with an increase of about 6.2 per cent as compared with the price level at the beginning of the year. The year's stock market price movement may be described as distinctly but moderately upward, and without any sensational occurrences. The moderate decline during the first third of the year was somewhat more than counterbalanced by the gain recorded during the latter two-thirds.

In conformity with the explanation of 1941, the 1942 showing is again surprising to say the least. As explained in the section on "Economic and Business Conditions," this country experienced an extraordinary increase in business activity along nearly all leading lines, occasioned by a tremendous national defense program, as well as by large war orders placed by foreign nations at war. Unemployment practically ceased, and the problem of a shortage in working manpower has become the cry of the day. Earnings of most listed corporations have also been extraordinary, and holders of common shares have in many instances been mystified by their large dividend allotments in

comparison with the very modest yield obtainable on government and sound corporate bond issues. To quote the 1941 description: "The market apparently was uninfluenced by present improved earnings and volume of business. The market was evidently looking ahead into the future, *i.e.*, discounting the events of the future."

### WAR FACTORS

With respect to this future the security market was evidently balancing the favorable factors with the unfavorable. Favorable business conditions had to be tempered with considerations of an unfavorable character as regards future earnings flowing to owners of shares. The stock market is a discounter of the future. Among these considerations may be mentioned the rapidly increasing Federal indebtedness (amounting to nearly \$112,500,000,000 at the end of the year and with prospects of further great increases in the near future), the greatly increased taxation upon corporations as well as upon individuals (with promised further increases in the near future to meet the needs of war), and the tendency (despite Herculean efforts to the contrary) towards inflation destined to increase the cost of both raw materials and labor. In addition to these unfavorable major factors, the year 1942 was also marked by certain other troubles connected with the adoption of priorities in many fields of endeavor, the establishment of numerous price levels, the introduction of rationing systems, and the application of business regimentation along many lines. Again, there is much uncertainty as to the length of the war (all sorts of prophecies being offered at the end of the year), with a definite consciousness that should the war continue for several years, all of the aforementioned unfavorable conditions will likely increase in severity. Doubtless there is also a prevalent feeling in the speculative community that the present business activity is economically abnormal, in large part wasteful, and in general inconsistent with lasting wealth production. The

## THE SECURITY AND MONEY MARKETS

enormous wear and tear connected with war production may also leave a substantial depreciation account unaccounted for. Lastly, one hears a great deal about the possible aftermath of the war, with its unemployment and its costly industrial rearrangements from war to peace conditions.

In striking the aforementioned balance, however, it may safely be said that the 1942 market foreshadowed the turn in the tide of the war. Slipping lower during the first third of the year, the market seemed affected by the adverse military news of that period. The moderate rise during the latter two-thirds of the year accompanied the United Nations' swing to offensive operations. With American and Allied occupation of North Africa, the market became notably strong and active, particularly in shares of companies apt to do well in the peace time to come. The movement might have been greater had it not been for the income tax situation. Because of greatly increased income taxes, the last quarter of the year was again marked by considerable selling of securities to establish losses for tax deduction purposes. This selling became particularly heavy in December, since many were anxious to put their portfolios in the best possible shape for tax purposes in view of the new high levies taking effect in 1943. Fortunately, reinvestment demand and general buying, largely because of favorable war news, more than offset tax sales.

### INDUSTRIAL SHARE PRICES

The extent of the two stock market movements occurring during 1942, namely, the decline from January to April and May, depending upon the group of stocks under consideration, and the subsequent improvement to the end of the year, may be shown by the monthly averages of the Standard Statistics Company for various groups of stocks. Fifty representative industrial stocks had an average price of 89.2 for January. Thereafter this group declined gradually until a low price of 79 was

reached for the month of April. Beginning with May, there was a gradual increase, the averages being 79.8 for May, 84.4 for June, 87.9 for July, 87.3 for August, 88.1 for September, 94.1 for October, and 95.5 for November (the latest available). The November average of 95.5 for the year 1942 compares with 93.8 for the same month of 1941, and, with reference to the corresponding month, 106.9 for 1940, 123 for 1939, 129.1 for 1938, 107.8 for 1937, 168 for January, 1937, and 53.5 for the yearly average of 1932, the bottom year of the 1930-36 depression. It is interesting to note that the November, 1942 average of 95.5 is nearly twice the 1932 yearly average of 53.5. It should also be pointed out that during 1929, the great prosperity period of the previous cycle, this industrial list reached the highest monthly level during September, namely, 245.9.

### RAILROAD SHARES

With respect to 20 representative railroad stocks, the monthly average of the Standard Statistics Company was fairly well maintained throughout all of 1942. For the first half of the year, January to June, inclusive, the monthly averages stood at 28.1, 28, 26.2, 24.8, 24.6, and 24. This decline, however, was more than recovered during the remaining months of the year. From the June average low of 24, there was a successive increase in succeeding months from 25.8 for July to 26.7 for August, 27.2 for September, 29.7 for October, and 29.3 for November (the latest available). The November average of 29.3 compares with 27.8 for November, 1941; 30.1 for November, 1940; 33.5 for November, 1939; 31.7 for November, 1938; 33.1 for November, 1937; 47 for January, 1936; and with yearly averages of 36 for 1935; 42.9 for 1934; 39 for 1933; 26.8 for 1932; and 141 for 1929. During 1929 it should be noted that these railroad shares reached the highest monthly level during September, namely, 161.2. It is interesting to compare the November, 1942 average of 29.3 with the 1932 low monthly average of 15, and also with the

## X. BUSINESS AND FINANCE

September, 1929, high average of 161.2.

### UTILITIES

A similar price trend is shown in the public utility group during 1942. According to the Standard Statistics Company average for 20 representative public utility stocks, the monthly average declined from 35.4 in January to 28.8 for April, and thereafter a gradual rise took place until a monthly average of 35.4 was reached in the month of November. From May to November, inclusive, the average monthly price was fairly well maintained, the figure standing at 29.8 for May, 31.1 for June, 30.6 for July, 30 for August, 30.4 for September, 33.7 for October, and 35.4 for November. It will be noted that the November average of 35.4 is the same as the figure for the first month of the year. The November, 1942, average of 35.4 compares with 37.9 for the corresponding month of 1941; with 59.8 for November, 1940; with 69.5 for November, 1939; with 66.4 for November, 1938; 63.3 for November, 1937; 100.9 for January, 1937; 88.4 for January, 1936; and with yearly averages of 62.8 for 1935; 65.5 for 1934; 81.8 for 1933; 88.7 for 1932; and 246 for 1929. During 1929 it should be noted that utility stocks also reached

the highest monthly level in September, namely, 340.6.

### COPPER AND BRASS SHARES

Attention may also be called to a representative list of seven copper and brass stocks, whose average price declined from 88.3 for January to 70.8 for May. Thereafter a moderate increase occurred to 71.4 for June, to 76.1 for July, 75.6 for August, 75.3 for September, and 80.9 for October, the latest available. The October average of 80.9 compares with 86.9 for January of 1941 and 82.4 for December, 1941.

Combining all of the aforementioned 90 stocks used by the Standard Statistics Company service, the average price stood at 70.9 for January of 1942. A decline then took place until 62.2 was reached for the month of April. Subsequently an improvement carried the price from this low monthly average of 62.2 to 75.3 for the month of November.

### MARKET VALUE OF SHARES

Using the figures of the New York Stock Exchange, the total market value of 1,471,000,000 of listed shares on the New York Stock Exchange stood at \$37,374,000,000 at the close of 1942. This value is almost the

### SECURITY MARKET PRICES

	Railroads 20 stocks		Industrials 50 stocks		Public Utilities 20 stocks		Copper and Brass 7 stocks		Stocks 90 stocks	
	1941	1942	1941	1942	1941	1942	1941	1942	1941	1942
January .....	29.8	28.1	102.6	89.2	55.0	35.4	*86.9	*88.3	83.8	70.9
February .....	28.4	28.0	96.1	86.4	51.4	33.9	*80.1	*85.1	78.5	68.7
March .....	28.7	26.2	96.9	82.1	50.6	30.8	*81.1	*81.4	79.0	64.9
April .....	29.0	24.8	93.9	79.0	47.6	28.8	*78.5	*76.9	76.5	62.2
May .....	28.7	24.6	92.4	79.8	44.4	29.8	*83.4	*70.8	74.9	62.9
June .....	28.7	24.0	96.2	84.4	44.9	31.1	*88.3	*71.4	77.5	66.1
July .....	30.0	25.8	101.5	87.9	45.9	30.6	*94.1	*76.1	81.5	68.6
August .....	30.3	26.7	101.0	87.3	45.2	30.0	*93.2	*75.6	81.1	68.2
September .....	29.4	27.2	101.7	88.1	44.6	30.4	*90.8	*75.3	81.3	68.9
October .....	28.6	29.7	97.7	94.1	42.1	33.7	*83.4	*80.9	78.0	74.0
November .....	27.8	29.3	93.8	95.5	37.9	35.4	*82.7		74.4	75.3
December .....	24.9		88.2		34.3		*82.4		69.5	

\* Copper and Brass figures use 1935-1939 as a base period. All other figures use 1926 as a base period.

The above figures are an average for the month based on daily closing prices, except for Copper and Brass, which are weekly prices.

(Source of data: Standard & Poor's *Trade and Securities, Current Statistics*, November, 1942.)

## THE SECURITY AND MONEY MARKETS

same as that prevailing at the close of November, 1941, namely, \$37,882,000,000. The year's November value of \$37,374,000,000 may also be compared with \$41,848,000,000 on Dec. 1, 1940; \$45,505,000,000 at the same date in 1939; \$46,081,000,000 in 1938; \$40,716,000,000 in 1937; and with \$62,618,000,000 for March of 1937, the high mark before the bear market of 1937-38 began its course.

### MONTHLY STOCK AVERAGES

The average monthly "All Stock Price Index" as furnished by the New York Stock Exchange stood at 50.6 for November, 1942, as compared with 51.6 for November, 1941; 57 for November, 1940; 63.2 for November, 1939; and 64.1 for November, 1938. The Dec. 1, 1942, average of 50.6 compares with the following December averages for preceding years: 37.8 for 1937; 56.01 for 1936; 45.85 for 1935; 35.59 for 1934; 32.78 for 1933; 25.61 for 1932; 34.24 for 1931; 55.53 for 1930; 68.44 for 1929; and 97.8 for 1928.

### VOLUME OF STOCK TRANSACTIONS

Stock transactions on the New York Stock Exchange during 1942 showed extreme dullness, thus continuing the movement recorded in previous issues of THE AMERICAN YEAR BOOK for 1936-41. In fact, the year's total transactions were the lowest since 1914, when the Exchange, owing to the outbreak of the First World War, was closed for a period of approximately four months. Despite sensational war news and an extraordinary increase in business, the stock market stagnation continued all through the year. December, with the largest monthly transactions, records only 19,313,000 shares, while May, the smallest month of the year, records only 7,229,097 shares. Up to the latest published data (Dec. 1), Nov. 9 proved to be the largest day of the year with 1,207,643 shares, while July 1 recorded the smallest full day transactions, namely, 206,680 shares.

Shares sold on the New York Stock

Exchange during 1942 totaled only 125,677,963 (as reported by *The New York Times*), as compared with 170,534,363 shares for 1941, 207,605,359 shares for 1940, 262,015,799 shares for 1939, 297,446,059 shares for 1938, 409,468,885 shares for 1937, 496,063,099 shares for 1936, 382,000,000 shares for 1935, 324,000,000 shares for 1934, 655,000,000 shares for 1933, 425,000,000 shares for 1932, 579,000,000 shares for 1931, 810,000,000 shares for 1930, and 1,125,000,000 shares for 1929, the highest figure on record.

### SHARES TRADED ON THE NEW YORK STOCK EXCHANGE

	1941	1942
January.....	13,294,670	12,994,000
February.....	8,971,205	7,926,000
March.....	10,111,344	8,588,000
April.....	11,177,940	7,589,000
May.....	9,661,230	7,229,000
June.....	10,450,563	7,466,000
July.....	17,871,457	8,374,000
August.....	10,875,370	7,387,000
September.....	13,544,841	9,450,000
October.....	13,136,756	15,933,000
November.....	15,052,272	13,437,000
December.....	36,386,715	19,313,000

Source: 1941 figures from *The New York Times*. Jan. to Oct., 1942, figures from the New York Stock Exchange *Monthly Statistics*; Nov. and Dec., 1942, figures from *The New York Times*.

### YEARLY TOTALS OF SHARE SALES

1920...	226,640,400	1932...	425,235,829
1921...	172,712,716	1933...	654,874,210
1922...	258,652,519	1934...	323,871,840
1923...	236,115,040	1935...	381,666,197
1924...	281,991,597	1936...	496,063,099
1925...	454,404,733	1937...	409,468,885
1926...	450,845,255	1938...	297,446,059
1927...	576,563,218	1939...	262,015,799
1928...	919,661,825	1940...	207,605,359
1929...	1,124,991,490	1941...	170,534,363
1930...	810,038,161	1942...	125,677,963
1931...	579,921,426		

### CURB MARKET SALES

On the New York Curb Market sales of shares also show a tremendous decline, the total standing at only 22,327,822 shares (*The New York Times*), as compared with 34,690,900 shares for 1941, 43,041,774 shares for 1940, 45,800,633 shares for 1939, 49,795,922 shares for 1938, 104,178,804



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shares for 1937, 135,000,000 shares for 1936, 76,000,000 shares for 1935, 56,000,000 shares for 1934, 101,000,000 shares for 1933, 57,000,000 shares for 1932, 110,000,000 shares for 1931, 220,000,000 shares for 1930, and 474,000,000 shares for 1929.

### THE BOND MARKET

Bond sales on the New York Stock Exchange during 1942 totaled \$2,182,625,800 (*The New York Times*), as compared with \$2,114,098,550 for 1941, \$1,671,598,875 for 1940, \$2,048,237,875 for 1939, \$1,859,525,825 for 1938, \$2,792,000,000 for 1937, \$3,575,000,000 for 1936, and \$3,437,000,000 for 1935.

During 1942 bonds maintained an unusually steady price level throughout the year. Using Moody's Bond Prices as a basis (*Commercial and Financial Chronicle*, Dec. 24, 1942), the monthly average for 120 domestic corporations stood at 106.92 at the end of January, 1942. Thereafter the average price fluctuated narrowly from month to month until the price stood at 107.27 on Dec. 22 (the latest date available). This compares with high and low for 1942 of 107.62 and 106.04, with high and low for 1941 of 108.52 and 105.52, with high and low for 1940 of 106.74 and 99.04, and with high and low for 1939 of 106.92 and 100. The Dec. 22, 1942 price is, therefore, similar to the price of the preceding two years. United States Government bonds stood at the high average level of 116.78 on Dec. 22, 1942, compared with high and low for the year of 118.41 and 115.90, with 120.05 and 115.89 for 1941, and 119.63 and 113.02 for 1940.

The extraordinarily high price of bonds has brought the average bond yield to very low figures. According to Moody's Bond Yield Average, the average yield for all of the 120 domestic corporation bonds was down to 3.32 per cent on Dec. 22. However, for choice bonds (the Aaa group) the yield was only 2.82 per cent, as compared with 2.80 per cent a year before, and with 2.72 per cent on the corresponding date in 1940.

Using the Standard Statistics Com-

pany average for a representative group of corporate bonds, the monthly high average stood at 100.3 for January, 1942. Thereafter the price fluctuated slightly from month to month, the high average standing at 100.6 for February, 99.5 for March, 99.51 for April, 99.28 for May, 98.63 for June, 99.22 for July, 99.72 for August, 101.4 for September, and 102.9 for October, the latest available. The year thus showed a remarkable stable bond market, and at a comparatively high price level. It should also be noted from the accompanying table that the monthly fluctuation between high and low was very small, January being the only month which showed a range between high and low as great as 2.80 points.

### COMPOSITE BOND PRICES FOR 1942

	High	Low
January.....	100.3	97.5
February.....	100.6	98.89
March.....	99.50	98.01
April.....	99.51	98.78
May.....	99.28	98.21
June.....	98.63	97.64
July.....	99.22	98.47
August.....	99.72	98.82
September.....	101.4	99.76
October.....	102.9	101.4
November.....		
December.....		

Source: Standard, Trade & Securities, Current Statistics, November, 1942.

All American bonds listed on the New York Stock Exchange (1,142 issues) showed a total market value of \$64,543,971,000 at the close of November, 1942. This value compares with \$54,813,000,000 on the corresponding date of 1941, and with \$50,755,000,000 in 1940. It should be noted, however, that the substantial increase in the 1942 figure is largely attributable to the issue of large amounts of United States Government securities during the year. On Dec. 1, 1942, the average price of the aforementioned number of listed bond issues stood at 96.11, which compares with 94.8 at the corresponding date in 1941, and with 93.58 for December 1, 1940, 91.24 for 1939, 90.34 for 1938, 92.36 for

## BANKING AFFAIRS

1937, 100.55 for 1936, 93.69 for 1935, 91.68 for 1934, 82.98 for 1933, and 81.36 for 1932.

### THE MONEY MARKET

With respect to both time and call loan rates, the 1942 tendencies represent an exact continuance of the situation prevailing during 1941 and 1940 and the preceding seven years. As was the case during previous years, in fact as far back as 1933, New York time and call loans were quoted at only about 1 per cent or under. There has been small demand for non-government funds, with respect to both commercial and speculative purposes. Beginning with a January average of 0.56 per cent for four to six months prime commercial paper, and 1 per cent for call loans in New York, the average monthly rates during 1942 remained extremely low month after month throughout the year. For prime commercial paper the monthly rate in New York averaged 0.56 per cent for January, 0.63 per cent for February to May, inclusive, and 0.69 per cent for June to October, inclusive (the latest available). These average rates are slightly higher than those prevailing in 1941, when the rate averaged 0.56 per cent from January to June, and 0.50 per cent from July to nearly the close of the year. For call loans in New York the monthly average remained at 1 per cent for each month of the year.

According to the New York Stock

Exchange figures (November, 1942), the borrowings of New York Stock Exchange members on collateral security continued to show a very small volume. The total of \$342,000,000 compares with \$436,000,000 for Dec. 1, 1941, and with the following totals for the corresponding date of \$362,000,000 for 1940, \$574,000,000 for 1939, \$620,000,000 for 1938, \$687,000,000 for 1937, \$984,000,000 for 1936, \$846,000,000 for 1935, \$831,000,000 for 1934, \$789,000,000 for 1933, \$336,000,000 for 1932, \$730,000,000 for 1931, \$2,162,000,000 for 1930, \$4,017,000,000 for 1929, and \$6,392,000,000 for 1928.

### INTEREST RATES

	Commercial Paper 4-6 Months		Call Loans— New York Stock Exchange Renewals— Average of Daily Renewal Rates	
	1941	1942	1941	1942
January....	0.56	0.56	1.00	1.00
February....	0.56	0.63	1.00	1.00
March.....	0.56	0.63	1.00	1.00
April.....	0.56	0.63	1.00	1.00
May.....	0.56	0.63	1.00	1.00
June.....	0.56	0.69	1.00	1.00
July.....	0.50	0.69	1.00	1.00
August.....	0.50	0.69	1.00	1.00
September..	0.50	0.69	1.00	1.00
October....	0.50	0.69	1.00	1.00
November..	0.50		1.00	
December..	0.56		1.00	

Source: *Standard, Trade and Securities, Current Statistics*, November, 1942.

## BANKING AFFAIRS

By PAUL F. CADMAN

ECONOMIST AND DIRECTOR OF THE RESEARCH COUNCIL,  
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### GENERAL

With the declaration of war, the resources and facilities of the American banking system were brought immediately into the service of the Government. At the close of 1942 all banks in the United States held about \$50,000,000,000 of United States se-

curities, compared with \$25,000,000,000 on Dec. 31, 1941. Bank holdings of government securities may exceed \$100,000,000,000 in 1943 on the basis of expenditures now budgeted.

### FINANCING THE WAR

Through a carefully planned and

## X. BUSINESS AND FINANCE

coordinated effort, banks took the lead in selling war bonds. The Secretary of the Treasury stated that 85 per cent of the sales of war bonds and stamps was accomplished by the banks. This record was established without cost to the Treasury, since the entire expense was borne by the banks without remuneration. Banks also assumed the responsibility of safekeeping bonds and of guaranteeing signatures on redeemed securities.

### WAR LOANS TO INDUSTRY

Banks have participated heavily in loans to war industries. Of a large expansion of loans and commitments for future loans for war production, about \$2,000,000,000 have been made with government guarantees. A substantially larger amount was advanced without such support. A survey made by the American Bankers Association, as of Sept. 30, 1942, showed that 421 banks in 167 cities had outstanding loans or commitments to make loans for war purposes of more than \$5,000,000,000. This vast offering of war credits to industry was accompanied by a reduction in total loans of more than \$1,000,000,000. Consumer credit and similar advances which did not contribute to the war effort, were heavily curtailed.

### DEMANDS ON BANKING FACILITIES

The vast increase in the physical volume of production, together with a somewhat higher price level, called for a corresponding expansion in media of exchange such as currency and bank deposits. Money in circulation is now more than \$15,000,000,000, an increase of \$4,250,000,000 during 1942. Practically all of this money is received and paid out over the counters of the banks of the United States. Bank deposits, which are used to settle the great bulk of obligations in terms of money, increased from \$71,000,000,000 at the end of 1941 to more than \$80,000,000,000 at the end of 1942. The rate of turnover of this enlarged volume of buying power also increased. During the

year banks cashed millions of additional checks for industrial workers and for government employees and beneficiaries. Millions of pieces of currency were handled and millions of war bonds were sold and delivered. Banking facilities have been established and operated at many Army posts.

In the latter part of 1942 banks in the Albany area of New York State cooperated with the Office of Price Administration and committees of the American Bankers Association and New York State Bankers Association in testing and perfecting a system for ration coupon banking.

### RESERVE REQUIREMENTS

Increased deposits, arising from expanding bank credit, increased the requirements for bank reserves at the same time that increasing demands for currency were reducing reserves. As a consequence, excess reserves were reduced to \$2,000,000,000, notwithstanding the fact that the Federal Reserve System extended \$4,000,000,000 additional credit to the market, chiefly through purchases of government securities. The Board of Governors also reduced requirements for reserves against net demand deposits in central reserve city banks from 26 per cent to 20 per cent. The Federal Reserve banks established a discount rate of  $\frac{1}{2}$  per cent on advances secured by government issues maturing or callable within one year, and announced that they stood ready to buy all Treasury bills offered at a rate of  $\frac{3}{8}$  per cent. The Treasury increased by more than \$10,000,000,000 the amount of Treasury bills and certificates of indebtedness in the market, affording banks an opportunity to adjust their reserve positions through the purchase, sale, or hypothecation of these obligations.

On Nov. 22, 1942 the Federal and state bank supervisory agencies issued a joint statement on examination policy to the effect that banks would not be criticized for investing in government securities or for making short-term loans to individuals for the same purpose, nor for borrow-

## BANKING AFFAIRS

ing at the Federal Reserve banks to restore reserves which were depleted due to purchases of government securities.

The expansion of bank deposits during the year was not uniform on a regional basis. From June to November, 1942 at the more important city banks it was between 24 and 36 per cent in the Federal Reserve districts of St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco, but was only 7 per cent in Philadelphia and 8 per cent in New York. Since the New York banks had been large buyers of government securities, they suffered a loss of reserve to other districts. This was aggravated by the preponderance of Federal tax collections in New York for disbursement in other sections of the country.

### TREASURY WAR BORROWING AND THE BANKS

The Economic Policy Commission of the American Bankers Association, during 1942, issued two statements concerning the role of the banks in the war effort. The report entitled, "Treasury War Borrowing and the Banks," is summarized as follows:

1. The present budget program calls for public financing of \$18,-800,000,000 in fiscal 1942 and \$33,-600,000,000 in fiscal 1943. Still larger sums may follow.
2. The way this huge sum is raised will influence our whole economic and social structure.
3. To help avoid damaging inflation the greatest part of this sum should be borrowed from the current income of people who would otherwise spend it—and next best from funds now idle.
4. Banks and bankers are offered the opportunity of assisting the Treasury in the sale of war savings bonds and other government securities to investors, of acting in effect as underwriters of government issues, and providing themselves with such additional funds as may be required by the Treasury, all with the support of the Federal Re-

serve System acting only as the lender of last resort.

5. Even with the best efforts to place securities with other investors, the Treasury's needs will require a large increase in bank holdings. Each bank must be ready to take its fair share of these securities.
6. To avoid disturbed markets and uncertainties a fairly steady level of interest rates is desirable, and it can be maintained with the cooperative effort of the banks, the Treasury, and the Federal Reserve System.
7. The sale of government securities to investors other than banks might be encouraged if excess bank reserves were allowed to decrease somewhat as deposits expand. A smaller amount should be adequate to maintain reasonable stability of money rates.
8. During this period banks can not expect to maintain as high capital ratios as in the past nor does this appear to be necessary as long as their expansion of assets is mainly in cash and government securities. Banks should be allowed to earn enough, however, to increase their capital at a moderate rate.
9. In the fight against inflation the banker, by virtue of his position in the community, has a special task at his own doorstep in selling bonds to investors. He shares responsibility with government to see that in this area there is no repetition of "too little" and "too late."

### THE BANKER IN WARTIME

A widely publicized statement issued for the guidance of banks is reproduced in full:

*The Banker in Wartime.* The banks of the United States have a major role in the war. They are the principal channel between the Treasury and the investor. They themselves are large buyers of government securities. They are a contact point between government and war indus-



# X. BUSINESS AND FINANCE

## ASSETS AND LIABILITIES OF ALL ACTIVE BANKS IN THE UNITED STATES AND POSSESSIONS, BY CLASSES†

(June 30, 1942\*)

(In thousands of dollars)

	Total All Banks	National Banks	All Banks Other Than National	Banks Other Than National		
				State (Commer- cial)†	Mutual Savings	Private
Number of banks.....	14,815	5,107	9,708	9,119	538	51
ASSETS						
Loans on real estate.....	\$ 9,617,560	\$ 2,247,061	\$ 7,370,499	\$ 2,631,615	\$ 4,736,569	\$ 2,315
Other loans, including overdrafts.....	15,560,745	8,654,734	6,906,011	6,781,455	77,752	46,804
Total loans.....	25,178,305	10,901,795	14,276,510	9,413,070	4,814,321	49,119
U. S. Government securities:						
Direct obligations.....	27,287,165	13,299,723	13,987,442	10,200,402	3,737,083	49,957
Guaranteed obligations.....	3,075,858	1,629,269	1,446,589	1,286,384	146,341	13,864
Obligations of States and political subdivisions.....	3,974,821	1,960,534	2,014,287	1,614,915	395,309	4,063
Other bonds, notes, and debentures.....	4,027,470	1,558,910	2,468,560	1,377,523	1,078,163	12,874
Corporate stocks, including stock of Federal Reserve banks	650,798	194,952	455,846	286,217	164,489	5,140
Total investments.....	39,016,112	18,643,388	20,372,724	14,765,441	5,521,335	85,898
Currency and coin.....						
Balances with other banks, including reserve balances†.....	1,446,780	728,309	718,471	636,323	79,783	2,365
Bank premises owned, furniture and fixtures.....	24,236,259	13,588,254	10,648,005	9,928,501	671,310	48,194
Real estate owned other than bank premises.....	1,204,320	588,690	618,630	499,192	115,946	492
Investments and other assets indirectly representing bank	614,523	72,494	542,029	175,140	366,023	866
premises or other real estate.....	127,781	52,526	75,255	58,362	16,859	34
Customers' liability on acceptances outstanding.....	67,961	32,316	35,645	28,163	.....	7,482
Other assets.....	367,950	111,193	256,757	185,872	70,286	599
Total assets.....	92,259,991	44,718,965	47,541,026	35,690,064	11,655,913	195,049

\* Omits figures for Guam and The Philippines on account of the war.

† Includes trust companies and stock savings banks.

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	Total All Banks	National Banks	All Banks Other Than National	Banks Other Than National		
				State (Commer- cial)†	Mutual Savings	Private
LIABILITIES						
Deposits of individuals, partnerships, and corporations:						
Demand.....	\$39,983,386	\$21,945,397	\$18,037,989	\$17,925,024	\$ 2,196	\$110,769
Time.....	25,613,382	7,841,032	17,772,350	7,392,849	10,366,404	13,097
U. S. Government and postal savings deposits.....	1,902,191	1,189,410	712,781	712,040	523	218
Deposits of States and political subdivisions.....	4,454,371	2,741,720	1,712,651	1,708,451	1,394	2,806
Deposits of banks†.....	10,295,050	6,498,697	3,796,353	3,759,702	228	36,423
Other deposits.....	781,195	442,861	338,334	336,129	686	1,519
Total deposits†.....	83,029,575	40,659,117	42,370,458	31,834,195	10,371,431	164,832
Bills payable, rediscounts, and other liabilities for borrowed money.....	20,736	2,014	18,722	16,975	30	1,717
Acceptances executed by or for account of reporting banks.....	78,641	37,322	41,409	33,085	12	8,312
Other liabilities.....	608,821	341,110	267,711	229,629	37,593	489
Total liabilities†.....	83,737,773	41,039,473	42,698,300	32,113,884	10,409,066	175,350
CAPITAL ACCOUNTS						
Capital notes and debentures.....	104,171	.....	104,171	98,160	6,011	.....
Preferred stock.....	290,914	152,379	138,535	138,535	.....	.....
Common stock.....	2,603,601	1,355,291	1,248,310	1,242,057	.....	6,253
Surplus.....	3,746,111	1,411,407	2,334,704	1,433,021	889,768	11,915
Undivided profits.....	1,270,261	515,949	754,312	458,112	295,873	327
Reserves and retirement account for preferred stock and capital notes and debentures.....	507,160	244,466	262,694	206,295	55,195	1,204
Total capital accounts.....	8,522,218	3,679,492	4,842,726	3,576,180	1,246,847	19,699
Total liabilities and capital accounts¹.....	92,259,991	44,718,965	47,541,026	35,690,064	11,655,913	195,049
Reciprocal balances with banks in the United States.....	643,728	439,310	204,418	204,418	.....	.....

† Excludes reciprocal interbank demand balances with banks in the United States (heretofore reported gross), the amounts of which are shown below "Total liabilities and capital accounts."

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try. Their machinery is used at almost every step in the great war program. Fulfilment of this great responsibility will be aided by a clear definition and wide recognition of the banker's duties. That is the purpose of this statement.

*Financing the War.* To avoid inflation the Government must draw the funds it borrows primarily from the current income of individuals and institutions and only secondarily from commercial banks. It is the duty of the banks—

1. To encourage thrift and discourage spending so as to accumulate funds for war.
2. To push vigorously the sale of defense savings bonds and stamps and tax anticipation notes.
3. To subscribe for Treasury issues suitable for banks.
4. To help maintain a broad and dependable market for government securities.
5. To advise with the Treasury and the Federal Reserve System in planning government fiscal policies.

*Aid to war production.* Business large and small alike must be mobilized for war. The banker can help through his knowledge of business and government, and his ability to lend. It is his task—

1. To assist small business with war orders.
2. To finance war industry both in plant expansion and in current operations.
3. To participate with Federal financing agencies when the job extends beyond proper banking scope.
4. To advise with business customers in converting plants to war use, in dealing with government agencies, and in other war problems.
5. To lend to the farmer and distributor for the "Food for Freedom" defense program.
6. To scrutinize non-defense loans with care and to discourage ex-

penditures which might compete with war production for materials or labor.

7. To cooperate in the regulation of consumer credit under Regulation W.

*Keeping the economic machine running.* The country's whole economic machine must be put in high gear, to run as it never ran before. Almost every business transaction involves banking; the use of checks or money for buying materials or meeting payrolls; transferring funds; handling securities. The banker's ordinary job has become a war job. It is his responsibility therefore—

1. To provide for business and government deposit, checking, transfer, and payroll facilities, on a new and larger scale.
2. To sell and distribute vast numbers of defense bonds and stamps, tax anticipation notes, and handle tax checks.
3. To cooperate with the Treasury in dealing with foreign funds.
4. To offer special services for men in the armed forces.
5. To help interpret government to business and business to government that they may work together with understanding and unity.

These tasks must be carried through swiftly and accurately while many bank workers are entering military services. This means harder work for bank staffs from top to bottom.

*A house in order.* The nation faces years of great industrial and financial expansion and severe readjustments. To play his part effectively the banker's own house must be kept in order. It is his duty—

1. To maintain the quality of his bank's assets.
2. To husband his resources through a prudent policy of reserves and dividends.
3. To practice as well as preach the gospel of *work and save*.

## FOREIGN EXCHANGE

*And in the community.* As a citizen of his community the banker who is not himself called into the armed services has special obligations—

1. To share with others the responsibility for the success of Red Cross and United Service activities and civilian defense.
2. To make local, state, and national bankers' organizations effective agencies in the nation's service.
3. To help the public understand war taxes, war restrictions, rationing, price controls, and other war measures which depend for their success upon public cooperation and public morale.

### AMERICAN BANKERS ASSOCIATION

The American Bankers Association, the national organization of banking, includes in its membership 14,300 of the total of about 16,400 state com-

mercial, national, savings banks, and trust companies and other eligible institutions and organizations.

The 1942 convention scheduled for Detroit was cancelled in deference to an official request from Washington that all national conventions involving the transportation of large numbers of delegates be postponed if possible. The essential year-end business was transacted at a special meeting of the Executive Council, convened in accordance with the constitution at New York City.

Officers of the Association elected for the year 1941-42 were: President W. L. Hemingway, president of the Mercantile-Commerce Bank and Trust Company, St. Louis; First Vice-President, A. L. M. Wiggins, president of the Bank of Hartsville, Hartsville, S. C.; Treasurer, W. F. Augustine, vice-president of the National Shawmut Bank, Boston; Executive Manager, Harold Stonier, 22 East 40th Street, New York, N. Y.

## FOREIGN EXCHANGE

BY MARCUS NADLER

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### GENERAL

The foreign exchange market during 1942 remained practically static. Foreign exchange restrictions were tightened in a number of countries and the trade of the world was only to a very limited extent financed through ordinary channels. As is well known, the bulk of the trade of the United Nations is carried on through lend-lease operations, and since the dollar sign has been omitted from these transactions no exchange transactions arise.

The trade of the Axis countries is primarily carried on through clearing arrangements. This applies not only to the trade of Germany with the countries conquered or occupied by her but also to a considerable extent with the few European neutral countries. So far as Germany's trade with the occupied countries is concerned, it

is more or less a one-way arrangement. The Germans are endeavoring to buy as much as possible in these countries and ship to them as little as possible. The trade of the few remaining neutrals in Europe is to a large extent with Germany while the trade of the Latin American countries is primarily with the United States. Under such circumstances one should not expect any activity in the exchange market, and exchanges, in so far as they are quoted, have remained fairly stable.

### THE ROLE OF GOLD IN WARTIME

The role of gold during the war has also undergone a considerable change. Whereas in previous wars, gold was considered an important sinew of war because it could be used for purchases of commodities in neutral countries, at present the production of gold in



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a number of countries has decreased. In the United States as well as in Canada direct orders were issued by the respective governments to curtail production of gold in order to release miners for the purpose of producing non-ferrous metals such as copper, zinc, and lead which are considered more important in wartime than gold. In other countries, too, the production of gold declined because of the inability to obtain the necessary machinery and equipment. Since the world at large is at war and the few remaining neutrals are more interested in receiving commodities than gold, one can readily see that gold would play a less significant role than it has in previous years. The flow of gold to the United States was limited and exercised little influence on the money market.

### THE FUTURE OF GOLD

One can, however, discern two contradictory tendencies as regards the future of gold: one, an increased use of gold, and the other, a decline in the use of gold during and possibly after the war. The gold holdings of a number of central banks, particularly in the neutral countries, such as Switzerland, Portugal, Sweden, and the Argentine have shown an increase. This clearly indicates that these central banks still retain their confidence in gold and feel that gold offers greater security than the exchanges of any of the leading countries. Not only are some of the central banks increasing their gold holdings but also the demand for gold on the part of individuals is increasing rapidly as the inflationary forces throughout the world become more evident. The demand for gold coin has increased everywhere and coins are selling at a substantial premium.

As against these developments, however, there are other tendencies which will exercise an adverse effect on the future of gold. In practically all belligerent countries gold has ceased to be a basis for currency and credit and has been supplanted by government securities. Under present conditions it is doubtful whether any major nation would willingly return

to a standard in which the amount of gold held by an individual country or its central bank determines the amount of credit and currency outstanding. The system of managed currency is broadening, and in addition the foreign trade of the world is being developed along new channels in which financial institutions play only a relatively minor role.

Under these circumstances it is, of course, impossible to predict what the role of gold will be in the future. During the war in all probability no material change will take place while the production of gold will decrease. Hoarding of gold by individuals will increase wherever possible and the movement of gold from country to country in all probability will be maintained at as low a level as possible in order to conserve shipping facilities. What the role of gold after the war will be is uncertain because it will depend to a very large extent upon the economic and social conditions that will prevail throughout the world after hostilities have come to an end. It is already evident that gold will cease to be a basis for currency and credit in any country. In view, however, of the chaotic currency conditions that will prevail in many parts of the world it is quite likely that most countries as soon as possible will tie their currencies to gold and that the yellow metal will again be used as a means of settling international balances and of keeping exchanges stable.

### CURRENCY CONDITIONS IN EUROPE

Currency conditions in many parts of the world are chaotic and are becoming increasingly so. The central banks of all leading countries are definitely under the influence of their governments and their prime function is to facilitate the financing of the war. The volume of government securities held by the central banks has increased and the amount of currency in circulation is rising by leaps and bounds. Conditions in Europe, particularly in the countries occupied by

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Germany, and Japan are reaching a point where a complete breakdown of the currency system is almost inevitable. In all countries under German domination the deficits of the governments are exceedingly large, caused in part by the huge indemnities which the conquered countries are required to pay to the conqueror. To a considerable extent, if not entirely, these deficits are met through the sale of government obligations to the central banks or other financial institutions.

The situation is further aggravated by the fact that the clearing arrangements with Germany show a large export balance which is paid for by the Germans with a credit on the books of the Reichsbank to be settled after the war. The situation in turn has led to two adverse developments both of which have a very serious effect on the movement of commodity prices in all countries affected. On the other hand, there is a sharp increase in the volume of currency in circulation backed either by government securities or by worthless German promises. On the other hand, there is a considerable decline in the supply of commodities available for consumption.

These two factors combined have created a situation where inflation is inevitable. Although commodities are rationed and price ceilings have been established, prices of commodities in all countries occupied or conquered by Germany have increased. The people have lost complete confidence in their currencies with the result that a flight has ensued into anything which promises protection against depreciation. Commodities not rationed are eagerly bought at prices 10 to 20 times higher than existed prior to the outbreak of the war in 1939. Black markets for all kinds of commodities are in existence where prices are exorbitant. Real estate, art objects, jewelry, and other articles which the people believe will maintain their value are selling at very high prices. It is, therefore, evident that currency conditions in Europe are chaotic. This is reflected to a considerable extent in the price of the individual currencies in the black

markets of some of the neutral countries.

So long as the war lasts conditions are bound to become worse. The volume of currency in circulation as well as of deposits is bound to mount, thus further depreciating the purchasing power of the respective currencies. It is quite clear that by the time the war is over the currencies of all countries of Europe will be practically worthless and there will follow the gigantic task of reconstructing the currency and banking systems on the Continent.

### CURRENCY CONDITIONS IN THE ORIENT

Conditions in countries occupied by Japan are not much better. Wherever the Japanese armies went they issued large amounts of military notes with practically no backing. In addition, new institutions were established with capital furnished primarily by the Japanese Government for the purpose of exploiting the occupied territories. The newly created institutions have the power to issue bonds, some of which will be sold in the occupied countries. In all countries the volume of currency in circulation is increasing, the supply of commodities available for consumption is rapidly decreasing and prices are mounting.

### CURRENCY CONDITIONS IN LATIN AMERICA

The only bright spot in the currency and exchange picture of the world is Latin America. The gold holdings as well as the dollar balances of a number of central banks have increased materially, and the governments have adopted measures to prevent a too rapid increase in the volume of currency in circulation. The foreign trade of most countries shows a large excess of exports over imports and the proceeds are being used partly to strengthen the reserve position of the central banks or to retire outstanding debt held abroad. It is, therefore, evident that a return to sound currency conditions in Latin America after the war will not constitute any serious problem.

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### POST-WAR RECONSTRUCTION OF CURRENCIES

The reconstruction of the currencies of the world after the war will be such a stupendous task that it will not be solved by the individual countries alone but will have to be achieved through international co-operation. In endeavoring to analyze the possibility of a return to sound currency conditions in the post-war period there are favorable as well as unfavorable factors to be considered. The favorable factors, briefly stated, are these:

During the present war no international debts are being incurred since all transactions among the United Nations are based on lend-lease. If the principle of "equality of sacrifice" is adopted in the final settlement of lend-lease transactions there is at least a possibility that some countries, such as Russia and China, may be creditors.

The second factor is that private international indebtedness has been greatly reduced partly through repatriation, partly through settlement and default. In this connection the fact should not be overlooked that large amounts of foreign securities previously held in Great Britain have been repatriated. Thus the international debt service after the war is bound to be substantially smaller than for

many years prior to the outbreak of the war.

Third, currency conditions in most parts of the world will be so chaotic that in order to restore their currencies the various governments will be forced to tie their currencies to gold.

The unfavorable factors are the exploitation of the occupied countries by the conquerors, namely, Germany and Japan; the deliberate breakdown of the banking and currency systems of the respective countries; and the huge destruction that has already taken place and is bound to take place in the future.

### THE OUTLOOK

Whether or not the nations of the world will return to sound currency conditions after the war will to a considerable extent depend upon the attitude of the people and government of the United States. It is obvious that in order to be able to return to sound currency conditions a more equable distribution of gold must take place. However, of greater importance is the fact that in order to return to sound currency conditions it is absolutely essential to adopt economic policies which would permit the relative free movement of international trade and the abandonment of all trade impediments after the period of reconstruction.

## FOREIGN TRADE OF THE UNITED STATES

By HENRY CHALMERS

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### EFFECT OF WAR ON FOREIGN TRADE RECORDS

Publication of the detailed record of United States foreign trade, by countries and by commodities, was suspended after the first nine months of 1941, for the duration of the war.\* Since October 1941, the Department

\* For detailed analysis of United States foreign trade during the earlier period of the war, up to that time, with historical retrospect, see article, THE AMERICAN YEAR BOOK, 1941, pp. 383-393.

of Commerce has been publishing little beyond the monthly values of exports and imports of the United States. However, those figures, in conjunction with the data available from the Office of Lend-Lease Administration on its operations, afford the essential over-all facts and the basis for certain observations.

### EXPORTS, IMPORTS, AND TRADE BALANCE

Assuming that foreign trade move-

## FOREIGN TRADE OF THE UNITED STATES

ments for the month of December 1942, unavailable at the time of writing, will have approximated those of November, the totals for the year 1942 may be estimated as follows:

Total exports (including reex-ports).....	\$7,800,000,000
Shipments under Lend-Lease	\$4,600,000,000
Direct purchase exports.....	\$3,200,000,000

The value of the total exports of merchandise from the United States during 1942 appears as the third highest in the history of the country. It was greater than that exported during any year of the First World War, and was exceeded only by the unprecedented values of the goods exported during 1919 and 1920, immediately after that war, when prices were exceptionally high. It represented an increase of more than one-half over the exports of the preceding year (\$5,100,000,000), and amounted to more than 2½ times the value of average annual United States exports during 1936-1938, the years immediately preceding the present war (\$3,000,000,000).

By similar calculation, the value of the total general imports of the United States during 1942 is estimated at \$2,600,000,000. This is about one-fifth less than the exceptional import total of the preceding year (\$3,300,000,000), and about equal in value to the imports during each of the first two years of the war, or during the period immediately before its outbreak.

Some allowance should be made for the advances in price levels of both exports and imports, which had been developing irregularly since the outbreak of the war. No precise estimates on that score are now available, although it is known that the price levels reached in 1942 were still well below those which prevailed during 1919-1920, the only two previous years during which the value of United States exports exceeded that of 1942.

The value of total exports from the United States during 1942, including shipments under Lend-Lease, exceeded the value of imports by \$5,200,000. Excluding Lend-Lease ship-

ments, the exports against direct cash purchases exceeded general imports by about \$500,000,000, or very close to the merchandise trade balance of the United States during the years immediately preceding the present war.

### LEND-LEASE SHIPMENTS AND DIRECT PURCHASE EXPORTS

The estimated value of the United States shipments abroad during 1942 under the Lend-Lease Act totaled \$4,600,000,000, not including certain planes and ships moving out of the country under their own power. This represented close to 60% of the total recorded exports from the United States during the year. However, the aggregate value of the direct purchase exports during 1942, which consisted partly of ordinary private trade, and partly of deliveries against war contracts earlier placed by purchasing agencies of foreign governments, appears to have been slightly higher than that during the years immediately preceding the war (\$3,000,000,000), and identical with the value of United States exports during 1939, before Lend Lease was in operation.

### DESTINATION AND MAKE-UP OF LEND-LEASE SHIPMENTS

While no figures as to destination were published for the complete year 1942, for October of that year, the last month for which such records are available, the report of the Lend-Lease Administration indicates that approximately 40 per cent of the total of such shipments went to the United Kingdom, 21 per cent to the Soviet Union, and 39 per cent to the Middle and Far East and other areas. Part of the equipment sent to the United Kingdom, under lend lease, is being re-shipped by the British to Russia, Egypt, and India and other areas in the Middle East. This is in addition to the large share of its own products of war supplies sent by Great Britain to these fronts.

While no specific amounts are given, the last Lend-Lease report to Congress indicated that such shipments to China have always been



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held down by the limited transportation facilities into Free China, a "bottle-neck that was made still tighter when the Japanese took Burma." Since then, "air transport across the Himalayas from India has been the only direct means of bringing lend-lease supplies into China."

During October 1942, the last month for which figures are available, of the total value of Lend-Lease exports, amounting to \$537,000,000, military items comprised 56 per cent. Somewhat over half the balance consisted of industrial materials, shipped mainly to the United Kingdom, Canada (principally for reexport), and to Russia. The balance was composed of special food products, particularly important to the United Kingdom and to Russia.

### PROGRESS OF THE LEND-LEASE PRINCIPLE AMONG THE ALLIED NATIONS

The December 1942 Presidential report to Congress on lend-lease operations declared that the current assistance being rendered by the United States to the United Nations under the lend-lease program, including ships and services as well as merchandise, was at the rate of approximately \$10,000,000,000 annually, roughly three-quarters of which consists of goods supplied. This was in-

dedicated as equivalent to about 15 per cent of the current rate of spending on the over-all United States war program.

The figures of lend-lease shipments abroad do not include the large quantities of foods and other equipment and supplies sent to the United States forces stationed abroad. Moreover, an element of increasing importance during the year was the reciprocal aid which the Allied nations were furnishing to American forces abroad in the form of equipment, supplies, and local facilities, when that is found to be the most expeditious use, in the common cause, of available resources and shipping space. These are being furnished under the reciprocal lend-lease agreements concluded during the year by the United States with the United Kingdom (which dealt also for the Colonial Empire), with Australia, with New Zealand, and with the Fighting French.

Since the middle of 1942, the lend-lease principle has been governing also the supplies of armaments of Empire manufacture furnished by Great Britain to the Soviet Union. (For a general discussion of lend-lease and other forces in the international movements of goods during 1942, see article on "Trade Policies of Foreign Countries," p. 404.)

## TRADE POLICIES OF FOREIGN COUNTRIES

BY HENRY CHALMERS

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### THE WAR INFLUENCE

With the greater part of the world now actually or potentially encompassed by the war, and with the few remaining neutrals moving uneasily in its shadow, the usual trade relations of most foreign countries, and the measures of official control over them, had by 1942 been eclipsed if not replaced by those arising out of the war situation.

### FORMATION OF TWO SECLUDED AXIS REGIONS

The military developments of the year brought a number of striking changes in the accessibility of various areas to the several groups of countries, changes which have reflected their influence also upon the relations between other sets of countries. The Japanese precipitation of war in the Pacific in December, 1941, and their

## TRADE POLICIES OF FOREIGN COUNTRIES

overrunning of southeastern Asia during the early months of 1942, from the Philippines to the East Indies and Burma, added that region of the world to the areas already practically closed off from general oversea trading by military operations and the naval blockades. On the other hand, the Allied occupation of Algeria and Morocco in November, and the subsequent adherence to the Allied cause of all French Africa except Tunisia, joined with the Rommel retreat into Tunisia and the British occupation of Madagascar, brought within Allied control and access all of the Continent of Africa, outside of the currently disputed Tunisian bridgehead. The only other non-Allied areas are the African colonies of Spain and Portugal, both of which have maintained a neutral position.

From the commercial viewpoint, the developments of 1942 divided the countries of the world into two fairly distinguishable, mutually exclusive groups—"the Axis" and "the rest of the world." However, while Germany and Japan are united politically and ideologically in their hostility to much the same opposing powers, principally Britain, Russia, and the United States, they have achieved no significant connections either militarily or commercially. In fact, the Axis commercial world has come to consist of two quite isolated regions, which are almost identical with the areas within the military control of Germany on the Continent of Europe and of Japan in Eastern Asia. The spread of the war and the extension of operations of the Allied forces during the course of 1942 left the two Axis groups, at its close, almost entirely cut off from even such trade intercourse with each other and with the outside world, as was still possible to them in December 1941.

### REGIONS ACCESSIBLE TO THE NON-AXIS COUNTRIES

Outside of the two Axis-controlled regions, most international trade routes have been kept substantially open by the British and American navies, despite heavy sinkings. They

now allow active trading among the United States, most of the British Empire, Latin America, most of Africa, and the Near and Middle East up to Burma, including the neutral countries in these regions as well as those which have declared their belligerence. The Soviet Union is receiving substantial supplies *via* three approaches: the Arctic route, although at considerable risk and loss; the Pacific-Trans-Siberian route, in some measure; and the Persian Gulf route, in increasing measure, as the harbor and overland transport facilities are being improved. Free China has been almost entirely closed off to foreign trade during the year, following the cutting off of even the limited volume of trade which had moved into the interior, although precariously, through the ports of central and south China, and through Rangoon and the Burma Road. It is now dependent upon what can be flown in by cargo planes based on eastern India, and such supplies as continue to be moved by the inland routes from the Soviet Union, branching off from the Turk-Sib Railway.

The thin and uncertain lines of oversea trade which the neutrals on the European continent (Sweden, Switzerland, Spain, and Portugal) have striven to keep open, throw into relief the seclusion of the rest of Europe. The Allied occupation of French North Africa and the German occupation of the rest of France, late in 1942, only intensified that seclusion. While the Germans can now draw more openly upon the resources and production of hitherto unoccupied France, both France and Germany have lost access to the important supplies of foods, phosphates and other minerals formerly drawn from French Africa. Moreover, such limited supplies of rubber, tin, and other Far Eastern raw materials as Germany has been able to get from Japan *via* the blockade runners, in return for specially desired industrial equipment, have now had an important link cut. It is no longer possible to unload these products at west Africa, and to move them overland

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to Mediterranean ports for the brief run to Marseille or Genoa. Whether the shorter Mediterranean route to the Middle East, now unsafe for either Axis or Allied commercial shipping, can become a more usable route for either side, will depend upon the military campaign in progress as the year closed.

### **SHORTAGE OF ESSENTIAL PRODUCTS AND OF SHIPPING SPACE**

The active participation of the United States, the enlargement of the potential theatre of war to global dimensions, and the general intensification of the war program, have called for drastic diversion of resources, manpower and productive facilities of the belligerent Allied nations to war purposes. This further curtailed, during the year, the volume and range of goods available for ordinary civilian use, either of their own populations or those in foreign markets, despite the strenuous drives for expansion in their volumes of production. The supply situation has been materially aggravated by the shortage of certain raw materials hitherto largely obtained from the Far Eastern areas now under Japanese control, although for a number of these alternative sources or synthetic substitutes are actively being developed.

Moreover, the shortage of shipping available for the carriage of goods to or from countries outside the zones or bases of military operations, has materially limited the movements of international commerce even between areas accessible to each other. This has affected also various commodities of which ample surpluses are available in the countries of their origin, such as coffee, bananas, and even petroleum, but for which cargo or tanker space can not now be spared.

### **LEND-LEASE AND POOLING OF RESOURCES AS TRADE FORCES**

Upon the physical facts of shortages of essential products and of shipping, which were coming to be increasingly felt during the preceding year even among countries located

on accessible world trade routes, there were superimposed during 1942 two important governmental decisions which profoundly affected the movement of commodities between the non-Axis countries. These were: the huge enlargement of its lend-lease operations by the United States, after its active entry into the war; and the arrangements for the pooling of economic as well as military resources on the part of the British and American governments and, in some measure, also on the part of others of the United Nations. In connection with both these policies, the urgency of need of the various countries in relation to the war program, rather than capacity to make current payment, grew in prominence as the determinant in the allocations of available supplies of essential products.

International pooling of supplies and concentration of productive resources had been going on since 1940 among most of the countries of continental Europe, including not only those occupied by the Axis, but also those under Axis influence or without sufficient alternative outlets. However, that program differs radically, in certain vital respects, from the one that has been developing more recently among the non-Axis nations. Such international pooling of supplies as has taken place within continental Europe during the war has been mainly under German orders or pressure, and the reciprocal exchanges of goods among the various secluded European countries has been largely dependent upon what was available after the prior German claims or arrangements had been satisfied.

Moreover, the direction of concentration of resources, including the movement of much plant equipment and manpower as well as of merchandise, has been primarily toward Germany, for the benefit of its military program or its population. The predominantly one-way flow of this movement has been officially acknowledged in the repeated German assurances to the peoples of other European countries that the huge balances due them on the clearing ac-

## TRADE POLICIES OF FOREIGN COUNTRIES

counts at Berlin—in so far as goods transported to Germany are recognized and recorded as exports rather than as requisitions—should be regarded as “iron savings,” which will be refunded to them in goods after the war.

### DIFFERENCES BETWEEN AXIS AND ALLIED POOLING PROGRAMS

Among the non-Axis countries, by contrast, the lend-lease and pooling programs are distinctly voluntary and represent a giving as well as a getting on the part of the United States and, in a measure, of the participating British countries. The pooling of supplies and resources envisages the needs of all the Allied nations engaged in the war, in accordance with their relative urgency. Moreover, the program for mobilizing more intensively the strategic materials and other essential products from the neutral countries and from those not actively engaged in the war definitely involves a counter-undertaking to endeavor to supply those countries with their essential import requirements, so far as the naturally prior claims of the military programs allow.

This latter arrangement particularly marked the trade relations of the year between the United States and Latin America, as the war developments made the southern republics increasingly dependent upon the United States as the primary supplier of their import needs as well as the buyer of their surplus products.

Canada and the United States went far during the year toward facilitating reciprocal exchanges of commodities as part of the integration of their war production programs.

### SIGNIFICANCE OF ALLIED LEND-LEASE AND WARTIME POOLING

The progress during 1942 toward the Allied pooling of economic resources and products, toward the adoption of the lend-lease principle by the United Kingdom and certain of the Dominions (Australia and New Zealand), and the expansion of lend-lease operations by the United States

and the other participating countries, and toward the integrated consideration of the essential civilian import needs of friendly countries not actively engaged in the war, as well as of the supplies obtainable from them—together represent the most striking and significant developments of the year in the trade policies and general economic relations between the non-Axis nations. Their influence can not but extend well beyond the actual trade movements they made possible during the year.

From the viewpoint of the future, perhaps the most significant development of the year in connection with the lend-lease arrangements was the series of Mutual-Aid Agreements concluded by the United States under the Lend-Lease Act of March 1941, with the United Kingdom, China, Soviet Union, and with most of the other United Nations. They carried identical pledges on the part of all the contracting governments to cooperate, after the war, in a program of collaboration designed to promote more liberal conditions for international trading and a more prosperous and expanding world economy.

### GOVERNMENTAL INTERVENTION AND PRIVATE TRADING CHANNELS

Despite the huge movements of equipment and supplies between nations during the year on inter-governmental account for direct military use or the maintenance of the wartime civilian economy of the combatants, a very substantial volume of what corresponds to normal private foreign trading continued to be carried on during the year. Such coordinated private orders or bulk purchasing through governmental channels of commodities for civilian use, as has been resorted to by some British and Latin American countries, has thus far been limited, with the notable exception of the United Kingdom, to special products which constituted a small part of their total imports.

In fact, a large proportion, even of the products that were exported from the United States for the account of



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foreign governments, other than purely military equipment,—whether against cash purchase or under lend-lease,—continued to be procured from the usual commercial producers, although often indirectly, and to move largely through private channels at this end, and through established importing and distributing channels in the countries of destination. This was particularly the case in dealings with the United Kingdom and the British Empire areas generally.

### VALUE OF UNITED STATES CASH EXPORTS EQUALS PRE-WAR TOTAL

In the case of the United States, in particular, the amount of direct cash exports was remarkably well maintained during 1942, approximating closely the value of total United States exports during the years immediately preceding the war. Understandably, those exports have differed considerably from the normal, both in the relative importance of the various lines of goods and of the different destinations. On the whole, however, the goods shipped aboard under lend-lease have apparently represented mainly additions to the past value of cash exports rather than their replacement.

### WAIVING OF DUTIES AND TIGHTENING OF TRADE CONTROLS

The United Kingdom, and reportedly certain other British countries have granted exemptions from duty for the bulk of the goods imported into their territories for government use. Private trade transactions, on the other hand, with practically all countries that are open to commerce, were during the past year subject to increased measures of governmental control at one or both ends. In fact, goods seldom moved internationally during the recent past unless the governments regarded it as distinctly in accord with the national interest to have them move,—or at least *not contrary* to that interest,—and often only to specifically approved countries of destination, and even limited to approved consignees within those countries.

### SUBORDINATION OF IMPORT TO EXPORT CONTROLS

Under current conditions, however, with the war needs having first call when supplies of essential goods are inadequate to all needs, and with the shortage of shipping limiting the movement of all commodities, whether scarce or ample, the decision whether a particular private transaction in international trade shall be consummated now rests, in the majority of cases, in the country of exportation rather than the country of importation. This is particularly true with regard to importations from the United States.

The judgments of the authorities of the originating country, as to whether the particular goods can be spared for commercial exportation, and as to the relative availability of ships to carry them, are now the decisive considerations. Increasingly, during the past year, this situation rendered quite secondary the duties, import licenses, or exchange controls which had been set up by most countries during the earlier years, when foreign goods were readily available and the choice lay with the buyer or his government.

### TRADE RELATIONS WITHIN THE AXIS-CONTROLLED REGIONS

The foregoing discussion is concerned primarily with the developments of 1942 in this field among the non-Axis countries. Owing to the absence of Allied governmental or press representation in the Far East Axis zone, and the meagerness of authentic reports from the European zone, only general impressions or fragmentary accounts have been available as to the developments during 1942 in the commercial relations between the areas constituting each of the two secluded Axis regions, and in the official policies or controls that have governed such relations.

In a general way it is known that, on the Continent of Europe, the year saw an intensification without radical change of the centripetal program developed by Germany since 1940, to govern the movement of commodities with and between the various countries under its control or influence. In

## PUBLIC ACCOUNTANCY

the overrun Far Eastern region, the Japanese are understood to have launched a program for the commercial absorption of the products and resources of the areas under their present control, which is remarkably similar to the German method of dealing with the European areas under the control of the Reich. The character of that program had been earlier foreshadowed in the Japanese trade relations with north China and French Indo-China, even before the outbreak of the global war.\*

\* For analysis of the German and Japanese trade policies during the preceding years toward the areas under their control, see corresponding articles in earlier issues of THE AMERICAN YEAR BOOK.

One striking difference between the contemplated Japanese-dominated regional economy and the German has already become manifest. Neither Japan itself nor the areas within its so-called "co-prosperity sphere" have the facilities to process or the ability to consume the huge volumes of the various natural products of eastern and southeastern Asia, upon the profitable disposal of which those countries depend for the maintenance of employment and for even minimum prosperity. Nor has Japan, now or in early prospect, the manufacturing capacity adequate to supply, in return, even the most essential import requirements of the peoples secluded within this region.

## PUBLIC ACCOUNTANCY

BY GEORGE O. MAY

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### GENERAL

The inclusion in THE AMERICAN YEAR BOOK of a section dealing with new developments in accounting during 1942 may be regarded as recognition of two facts; first, that accounting is based on conventions; and, second, that the conventions are not unchanging but are affected by changes in the principal uses of accounts or in social or economic concepts. One of the main purposes of accounting is the allocation of profits to short periods of time. In the case of a complex business this can not be an exact or scientific undertaking, since profits are usually the result of operations spread over a lengthy period, not something that springs up in a moment of time. Yet profit restriction, income taxation, and investment all rest largely upon such allocations.

### USES OF ACCOUNTS

Immediately prior to the war the emphasis on financial accounts, particularly the income account, as a guide to future earning capacity and thus to the value of interests in enterprises, had been increasing under the influence of the Securities Acts

of 1933 and 1934. The outbreak of war dramatically showed how uncertain a guide to the future the past may be and for the time practically destroyed that usefulness of accounts. At the same time, however, the demand for profit restriction and the need for increased tax revenues gave the allocation of profits to individual years (or shorter periods) a greatly enhanced importance.

The allocation of profits to particular years presents difficulties similar to those presented in the treatment of joint costs in the field of administrative accounting; indeed, the two may in part be regarded as different phases of the same problem, for the products of each accounting period may be treated as a separate category, and the allocation of costs, the benefits from which are expected to extend over many years, then becomes a problem of allocation of costs between categories.

In general, the most important consideration in taking credit for revenues used to be conservatism. While this guide is adequate for the determination of aggregate disposable profits and similar questions, it is not

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necessarily appropriate for the determination of profits on particular contracts or taxable income. The outbreak of war made it apparent that to take away all but a small proportion of a profit, measured as profits are conventionally measured in peacetime, might result in practical confiscation which would be seriously detrimental to the war effort and to the future of the industrial economy.

### RENEGOTIATION AND WAR UNCERTAINTIES

The demand for the restriction of war profits led to controversy as to how restrictions should be effected. The suggestion that excess profits taxation would be sufficient for the purpose was rejected, and under the War Profits Control Act wide provision was made for renegotiation of war contracts. Perhaps wisely, and in any case deliberately, the act outlined no specific method or basis for renegotiation, with the result that the revenue to be received from contracts became indeterminate. The ultimate effect of this provision it is too early yet to determine, but manifestly the significance of annual accounts, which under the best of circumstances is limited, became even more difficult to appraise. The American Institute of Accountants has issued one auditing and four accounting bulletins dealing with the problems of uncertainty thus created and emphasizing the need for special reserves for conditions growing out of the war.

### THE REVENUE ACT OF 1942

To meet the taxation problem a number of specific relief provisions were inserted in the law, of which the following are the most generally significant for accountants: (a) Those allowing operating losses and unused excess profits credits to be carried either forward or backward two years (Code Sections 122 and 710[c]); (b) provisions relating to replacement of depleted inventories (Code Section 22[d] 6; (c) provisions relating to instalment sales (Code Section 736); (d) the adoption, broadly, of the principle of consolidated returns

(Code Section 141); (e) provisions exempting income from excess output of mines from taxation (Code Section 735); (f) special provisions for the relief of reorganized railroads, to which reference will be made later. No catch-all relief provisions similar to Section 210 of the Act of 1917 or Section 328 of the Act of 1918, were adopted.

### COST VERSUS VALUE

The outbreak of war accentuated other problems which accounting had been facing. Two fundamental questions affecting accounting procedures are: first, how far should accounts be based on cost (with due regard for exhaustion or deterioration) of property, and value, respectively? second, how far should accounts be conceived as those of the enterprise and how far as those of the particular corporation (or other entity) that is carrying on the enterprise? Over the years, there has been a shift of emphasis from the value to the cost basis (though value has never ceased to be important); and in recent years there has been a growing realization of the fact that, while the annual accounts furnished by a corporation naturally present the position and results from the standpoint of the corporation, accounts of the enterprise may from some points of view, such as reorganization, prospective purchase, and possibly rate and price control and taxation, be more significant.

### RAILROAD ACCOUNTS AND TAXATION

Both these problems have arisen in the field of regulated utilities and in both cases important developments occurred during 1942. For many years, the Interstate Commerce Commission and other regulatory commissions have been seeking escape from the rules laid down by the Supreme Court in 1898 in *Smyth v. Ames* that the portion of rates allowed as representing return on investment must be computed upon the "fair value" of the property devoted to the public service. They have regarded their control of accounting as



the most promising avenue to freedom from this rule; hence they have moved steadily towards "cost less depreciation" as the accounting basis for utility property. In applying this principle, some commissions have adopted the rule that cost should be the cost to the first person who devoted the property to the public use. In the case of power and light companies, to which the rule was first applied, the effect was expected to be and, in general, was to reduce the "rate base." To some extent, this reduction was the inevitable result of the change of basis, but in part it was due to the methods of effecting the change, the fairness of which has been questioned.

More recently, another phase of the question had to be considered in relation to the railroads that had been or were to be reorganized. The capitalization of these railroads was to be reduced, not because it exceeded either the actual cost or the reproduction cost of the property, but because of a decline in earning capacity. Clearly that decline did not reduce the operating cost resulting from the retirement and replacement of property, but if the property values were reduced to a figure equal to the new capitalization and depreciation and retirement charges were made on this reduced basis, operating costs reported would be artificially reduced, and income overstated. The simple solution was to adhere to the "original cost" theory, whichever way it worked. In a notable decision—Chicago, Great Western Railway Co. accounting case (*ex parte* 138)—the Commission in 1941, reversing one of its divisions, adopted this course for accounting purposes.

However, the position under the tax law as it then stood was quite different. It appeared that with the high war tax rates, reorganization might so reduce "invested capital" and allowable operating charges for property exhaustion as to increase the taxes of reorganized railroads by amounts approximating or even exceeding the reduction in fixed charges effected thereby. In the Revenue Act

of 1942, provisions were introduced which averted this possibility and implemented for tax purposes the rule laid down by the Interstate Commerce Commission for accounting purposes. The adoption of these provisions without opposition after discussion among the Congressional committees, the Treasury, the Interstate Commerce Commission and other governmental and private agencies, is not only of major importance in the field of taxation and a great contribution to the strengthening of our railroads, but also an accounting development of the first importance. It insures that "enterprise accounting" as distinct from "corporate entity accounting" will receive far more consideration in the future than in the past.

During 1942, also, the Interstate Commerce Commission decided to make effective as from Jan. 1, 1943 the introduction of depreciation charges on roadway and structures as called for by an order made in 1931 which has been suspended until now. The decision raises important and controversial accounting questions.

#### PROBLEMS OF VALUATION

The year saw other developments in the old area of controversy between cost and value as determining factors in accounting. In 1941, the Supreme Court had laid new emphasis on future earning capacity as the measure of value. Mr. Justice Douglas had said, in *Palmer v. Connecticut Railway & Light Company*: "The value of a going enterprise is dependent on earnings. A forecast of earnings must take into consideration the numerous and variable factors which affect income-producing capacity. Those factors vary from business to business. Here we are dealing with passenger transportation by bus. Certainly any forecast of earnings should embrace an expert study of problems peculiar to this field—the territory served, population trends, competitive conditions, the record of companies in comparable territory, and the like."



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The outbreak of war has made the estimation of future earnings a practical impossibility. It has strikingly illustrated the truth of the statement of J. M. Keynes that "the outstanding fact in relation to the application of this theory of value is the extreme precariousness of our knowledge of the future."

In March, 1942, the Supreme Court decided the Natural Gas Pipeline case, and, while the principal significance of that historical if enigmatical decision is legal, its accounting importance can not be ignored. The emphasis in the opinion of the Court on cost and the reference to reproduction cost as a theoretical accretion to value representing no profit to the owner (even though the comment was restricted to enterprises of limited life) will strengthen the position of those who insist that cost should be the basis of accounting for capital assets.

These dicta, together with the support given to the view that costs which have been treated as operating expenses should not later be included in investment (a proposition the validity of which turns upon the way in which it is applied) for the purpose of determining whether rates are confiscatory, tend to make the role of the accountant more, and that of the engineer less essential in rate and price regulation. In retrospect, the famous decision in *Smyth v. Ames* appears as a case in which a public demand based on a short view defeated for many years after the decision the very purpose sought by those who won that case. In the long run the tendency of the monetary unit is to decline in value, and original cost (even more than corporate cost) tends to become less than reproduction cost, so that the arguments successfully advanced on behalf of the shippers in 1898 against the cost basis were shortsighted.

These developments, and extension of price controls in certain areas, raise the question of the validity of the assumption of stability of the monetary unit which is implicit in present-day accounting but runs

counter to fact over a long period of years.

### VALUE AND SURPLUS

The question of value came before the New York Court of Appeals during 1942 in the case of *Randall v. Bailey*, involving the interpretation of the state law prohibiting payment of a dividend "unless the value of its assets remaining after the payment of such a dividend shall be at least equal to the aggregate amount of its debt and liabilities, including capital." The Court's decision was not unexpected; however, it did not adopt the method of valuing the assets as a whole from the standpoint of the future earning capacity but dealt with separate assets, and it held unrealized appreciation to be properly taken into account in applying the statute.

About the same time as the decision in *Randall v. Bailey* was handed down, the Securities and Exchange Commission issued a decision in the Associated Gas and Electric Company case in which, after reciting that accounting did not call for any adjustments in respect of temporary fluctuations in value of investments in subsidiary companies, it went on to say: "This principle has, however, been consistently coupled with the admonition that evidence of probable loss must be given due attention and, where such evidence points to an apparently permanent decline in the value and earning power of the underlying properties, the company holding such investments should recognize and make provision for the loss either by writing down the investment or by setting up a reserve therefor." The dictum was not based on accounting evidence, and there is little reason to think that it is correct as a statement of existing accounting conventions. It may be significant, however, as indicating a convention which the Commission expects to see established. Its adoption would have far-reaching effects. It is clear that the place of value in accounting for capital assets will

be a question of growing interest in the near future.

### **ANALOGY BETWEEN INTEREST AND PREFERRED DIVIDENDS**

A new provision of the tax law of more than accounting interest is one whereby for the first time certain public utility preferred stock dividends are allowed as deductions in computing the income subject to the corporation surtax in the same way in which interest has been allowed since the beginning of our system of income taxation after the constitutional amendment of 1913. This may be regarded as a first slight recognition of the anomaly of allowing taxability to be influenced by the form and even the names given to contracts under which the capital of enterprise is contributed. Interest on a long-term income bond has been an allowable deduction; dividends on a preferred stock with a sinking fund provision that practically insures early redemption, have not. The new provision is a minor palliative, not a remedy for a situation of real seriousness. The present law is a great incentive to debt financing, which in its after-effects may be disastrous to the enterprise system. The remedy is not easy to find unless the Congress is willing to adopt something like the British system and tax income once only instead of taxing corporate income to the corporation and then taxing dividends to the stockholders.

### **TREATMENT OF TAXES IN ACCOUNTS**

In the past it has not been uncommon for companies to show a figure described as "profits before income and excess profits taxes," followed by a deduction for the taxes and a final figure of profit (or income). During the year, the correctness of this procedure has been questioned. If renegotiation and excess profits taxation were but alternative methods of readjusting the profits of war contractors, what justification could there be for describing anything as a profit unless either or both had been deducted? Even the corporate income

tax is now simply an excise tax, since its payment brings no relief to owners of the corporation. Both excess profits and income taxes should be regarded as deductions before anything properly described as a profit can be arrived at. This treatment has long been adopted by railroads and public utilities and its adoption by industrial and other corporations seems likely to be a minor but useful result of the tax debates of 1942. It will have a psychological as well as a technical importance.

### **CONCLUSIONS**

In general, the effects of the developments of the year on accounting procedures and conventions have been healthy. They have brought out the importance of practical considerations and judgment, the impossibility of laying down satisfactory fixed rules based on the name or form of transactions, and the necessity of looking to their substance. Above all, they have emphasized the limitations on the significance of accounts, to which those engaged in various types of accounting activities have often failed to give adequate public recognition.

In relation to the auditing branch of accounting, the results have been less favorable. The demand for restriction of war profits created an auditing task of enormous magnitude. Those to whom it had to be entrusted were of necessity hastily recruited and in the majority of cases inadequately trained. It was perhaps inevitable that the work should be done not on broad lines but under rules that were meticulous and left little to discretion. Over-precaution was likely to elicit only commendation for zeal. The result was a waste of manpower that reached formidable proportions and a cost that was no doubt many times as great as any savings which have been effected but which would not have been secured by less detailed examinations. More recently, there has developed in some branches of government a willingness to take a more practical view of the problem and to restrict the

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scope of audits. There has also been an effort to reduce the extent of cost-plus-fixed-fee contracts which present the audit problem in its most acute form. It is to be hoped that these new tendencies will grow stronger and be preserved in time of peace, so that audit procedures even in government fields will be adopted in which the balance between auditing costs and risks will be reasonably adjusted.

### LIFE INSURANCE

By JAMES S. ELSTON

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#### STATISTICS

As this is written shortly before the end of 1942, comprehensive statistics are available only through 1941. The Association of Life Insurance Presidents has assembled estimates that the total life insurance, not including revivals, increases, and dividend additions, purchased from all United States legal reserve life companies will be \$12,100,000,000 in 1942 or about 7 per cent less than the 1941 total (the new issues figure in the table presented herewith includes revivals and the excess of all increases over certain decreases). The decrease is due among many reasons to the decrease in number of agents because so many are in war service, to the time and energy devoted by agents to selling government bonds, to the comparatively great amount of business sold toward the end of 1941 in anticipation of premium increases and of the prospective insertion of war clauses in all new policies, and to the fact that several million otherwise excellent prospects for insurance are in the armed services where they buy National Service life insurance under which the Government assumes all the extra cost of the war hazard and the expenses of administration. This insurance in force has passed the \$25,000,000,000 mark as most of the men take the insurance and for an average of perhaps \$7,500 or more each.

The estimated amount of insurance in force as of Dec. 31, 1942, in the legal reserve companies is \$130,000,000,000 or a 4 per cent increase during the year. About \$1,000,000,000 were paid in 1942 as death benefits to

beneficiaries of deceased policyholders and \$1,400,000,000 to living contract holders in the form of matured endowments, annuities, surrender values, dividends, and disability benefits.

#### PROPOSED VALUATION AND NON-FORFEITURE LAW

The National Association of Insurance Commissioners on Nov. 30 approved the report of its Committee on Non-forfeiture Benefits which recommends the passage of laws in the various states, radically changing the minimum bases of actuarial reserves and of non-forfeiture values in life insurance policies issued after the new laws become effective. Such approval in the past on important questions has led to the adoption by a large proportion of the individual states of the suggested changes in law. This report was a reconciliation after many months of study of every shade of actuarial, operating, and supervisory opinion. The president of the American Institute of Actuaries called it "one of the most significant publications in the insurance history of the world."

The details of the proposed laws and the actuarial reasons for them are extremely complicated, but recently in an address explaining the effects, T. A. Phillips emphasized that the general principles are easy to understand. Reserves are to be treated as actuarial measures of solvency and of safety in operations. This has long been recognized as the true and only function of an actuarial reserve. The principle is sound and will promote sounder companies. Conditions

# LIFE INSURANCE

## NEW ISSUES—TERMINATIONS—INSURANCE IN FORCE\*

(Dollars in Millions)

	1941	1940	1939	1938	1937
<b>ORDINARY BUSINESS</b>					
New Issues.....	\$ 8,375	\$ 7,506	\$ 7,260	\$ 7,506	\$ 8,151
Terminations:					
Death.....	742	743	718	719	708
Maturity.....	175	190	184	134	124
Surrender.....	1,302	1,502	1,620	1,689	1,511
Lapse.....	1,743	1,870	2,034	2,524	2,248
Other.....	931	1,006	1,101	1,125	1,068
Total.....	4,893	5,311	5,657	6,191	5,659
Insurance in Force.....	84,364	81,069	78,814	77,265	76,071
<b>INDUSTRIAL BUSINESS</b>					
New Issues.....	3,907	3,718	3,677	4,423	4,784
Terminations:					
Death.....	162	163	160	159	168
Maturity.....	86	83	55	43	31
Surrender.....	807	1,085	1,038	1,055	807
Lapse.....	1,508	1,730	1,767	2,181	2,137
Other.....	338	432	529	650	481
Total.....	2,901	3,493	3,549	4,088	3,624
Insurance in Force.....	22,280	21,344	21,140	20,986	20,591
<b>GROUP BUSINESS</b>					
New Issues.....	3,076	1,668	1,579	698	1,861
Terminations:					
Death.....	111	104	94	90	92
Lapse.....	110	73	82	113	127
Other.....	211	140	182	610	191
Total.....	432	317	358	813	410
Insurance in Force.....	18,029	15,381	14,023	12,803	12,910
<b>ALL LINES OF BUSINESS</b>					
No. of Companies.....	304	305	306	306	308
New Issues.....	15,358	12,892	12,516	12,627	14,796
Terminations:					
Death.....	1,015	1,010	972	968	968
Maturity.....	261	301#	239	177	155
Surrender.....	2,109	2,587	2,658	2,744	2,319#
Lapse.....	3,361	3,673	3,883	4,818	4,512
Other.....	1,480	1,550	1,812	2,385	1,739
Total.....	8,226	9,121	9,564	11,092	9,693
Insurance in Force.....	124,673	117,794	113,977	111,054	109,572

\* *Spectator Insurance Year Book*—All United States legal reserve companies.

# Including small amounts of Group Insurance.

change, and reserves on a given mortality basis or at a given rate of interest, which may be safe and adequate estimates of the actuarial liabilities, may later need adjustments to meet changed conditions. Under present laws such needed adjustments are seriously interfered with since reserves are also defined as a measure of non-forfeiture values. The minimum reserves required for solvency are to be computed on the new Commissioners 1941 Standard Ordinary Table (which conservatively reflects modern mortality experience) with interest at not over 3½ per cent per annum and on an actuarial formula described as the "commissioners' basis." This formula produces reserves for all practical purposes identical with those under the present so-called Illinois basis, which is already recognized in nearly all states and approved by all ac-



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### INCOME—DISBURSEMENTS \*

(Dollars in Millions)

	1941	1940	1939	1938	1937
Total Premium Income.....	\$4,080	\$3,944	\$3,825	\$3,800	\$3,762
Investment Income.....	1,269	1,231	1,201	1,156	1,132
Other Income.....	506	483	427	401	363
<b>Total Income.....</b>	<b>5,855</b>	<b>5,658</b>	<b>5,453</b>	<b>5,357</b>	<b>5,257</b>
Death Claims Paid.....	990	977	943	934	937
Matured Endowments.....	264	275	242	176	155
Paid to Annuitants.....	152	142	134	123	110
Surrender Values Paid.....	573	689	732	771	669
Dividends to Policyholders.....	430	456	456	447	436
Disability and Double Indemnity..	141	142	135	127	130
<b>Total Paid Policyholders...</b>	<b>2,550</b>	<b>2,681</b>	<b>2,642</b>	<b>2,578</b>	<b>2,437</b>
Paid on Supplementary Contracts..	233	213	184	176	167
Insurance, taxes, licenses, etc.....	137	135	135	131	127
Other Disbursements.....	907	885	866	859	879
<b>Total Disbursements.....</b>	<b>3,827</b>	<b>3,914</b>	<b>3,827</b>	<b>3,744</b>	<b>3,610</b>

### ASSETS—LIABILITIES—SURPLUS\*

Assets.....	32,731	30,802	29,243	27,755	26,249
Liabilities.....	30,373	28,557	27,091	25,706	24,304
<b>Surplus#.....</b>	<b>2,358</b>	<b>2,245</b>	<b>2,152</b>	<b>2,049</b>	<b>1,945</b>

\* *Spectator Insurance Year Book*—All United States legal reserve companies.

# Includes amount set apart for dividends to policyholders during following year and special, voluntary, contingency, etc., reserve.

### FRATERNAL INSURANCE \*

(Dollars in Millions)

Year	Number of Orders	New Business	Amount in Force (End of Year)	Assets (End of Year)	Total Income	Total Disbursements	Net Amount Received from Members	Paid for Claims
1941	215	\$542	\$6,448	\$1,316	\$230	\$166	\$160	\$115
1940	215	522	6,282	1,253	223	166	158	118
1939	251	560	6,260	1,199	227	167	157	115
1938	243	559	6,348	1,134	218	162	155	111
1937	255	666	6,333	1,098	224	166	159	117

\* *Spectator Insurance Year Book*—All U. S. Fraternal orders showing figures.

tuaries as fully adequate for solvency tests.

As a measure of non-forfeiture values a new formula is devised which has been named the "adjusted premium basis." This formula is predicated on the fact that policyholders' equities are accumulated from premiums paid and the general

mortality and operating costs of the company. In general it is based upon an assumed initial expense of acquisition, which an average, well-managed company should be able to meet. This initial expense is amortized over the premium paying period. This formula results in minimum non-forfeiture values which companies must

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grant and which are somewhat greater than those required by present laws.

### EFFECTS OF INTEREST RATE EARNED

The principal problem of the life insurance companies, at least other than that due to the war, is the continual decrease in the rate of interest earned on investments. Most new investments of the excess of income over disbursements are in government war bonds with an interest rate of  $2\frac{1}{2}$  per cent or less. The effect is accentuated by redemption of old bonds at lower rates and by investment of maturities of old bonds at the new rates. These factors tend to pull down the average net rate earned which in 1941 was 3.39 per cent as contrasted with 5.03 per cent in 1930. Several more companies have changed to a 2 per cent basis for annuity rates and reserves. An increasing number of companies have changed their reserve bases and the bases of their non-forfeiture values on new insurance to a lower interest rate. Many companies changed from  $3\frac{1}{2}$  per cent to a 3 per cent basis, and a few of the large participating companies have changed from a 3 per cent to a  $2\frac{1}{2}$  per cent basis. A few of the new bases are on the American Men Mortality Table.

### GENERAL WAR PROBLEMS

The life insurance companies have had to meet many of the war problems common to all business and also other special problems. In some respects these are not as great as those in many other businesses, but even in such cases the life company problems are greater and more far-reaching than an outsider would imagine, involving not only the home offices but especially the field. Of course, supplies and equipment costs have risen. Life insurance companies not only can not obtain some kinds of equipment, but are probably contributing more than their share of what they had of typewriters and tabulating machines to the service of the Government. Agents and claim

adjusters who have traveled about their territory are handicapped by increased costs and curtailment of transportation available, both by automobile and by other methods of travel. Both the shortage of doctors in many communities and the difficulty of getting applicants to the doctors for examination for new insurance have led to the institution or extension of non-medical insurance by several companies.

Dividends to policyholders depend upon three principal factors—the relation of actual mortality to the expected, the actual interest earned, and the cost of doing business. The decrease in the rate of interest has been discussed. Expenses are higher except as they are offset by greater efficiency or the curtailment of auxiliary services. The income taxes payable by life insurance companies for 1942 will be many times as great as previously and these will not come out of greater earnings as they do in the case of most businesses, but out of normal or even lower earnings. Probably only a small percentage of death claims due to war causes have been incurred as yet, but there seems no probability that they will be very serious to the companies. So far they have not amounted to as much as might be expected as a normal accidental fluctuation from year to year.

The question of war clauses was discussed at some length in last year's review. There was great diversity of practice until the Executive Committee of the National Association of Insurance Commissioners approved the recommendations of its special committee which had cooperated with special committees of the Association of Life Insurance Presidents and the American Life Convention. Uniform war and aviation clauses were not recommended but general principles embracing (a) no restrictions on military service in the home areas, (b) restrictions on deaths occurring outside of the home areas while in military, naval or air force of any country at war, and (c) for civilians traveling or working abroad restrictions on deaths due to war for

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two years. Since these recommendations were made various companies have revised their clauses to follow them, but considerable diversity still exists in the wording and details.

### CONTRIBUTIONS TO THE WAR EFFORT

As in all business, the companies have lost home office employees, branch office and other field representatives, both men and women, to the armed forces and allied organizations and also to war industries. In general, many life insurance men have entered various special phases of the war effort where they can be of greatest service, especially in campaigns for selling government war bonds. More than 20,000 life insurance agents are setting a splendid record in selling these. The goal of \$2,000,000,000 for 1942 was reached by Nov. 1. Many insurance men are on leave to do important government work. To insure the greatest possible contribution of the business to the war effort a special over-all committee has been created with representatives of the Association of Life Insurance Presidents, American Life Convention, National Association of Life Underwriters, Institute of Life Insurance, and Life Insurance Sales Research Bureau. This committee is putting its influence behind the drive to sell war bonds. It is attempting also to aid in various other ways such as in the selection of personnel with special skills that might be useful to the Government in different fields of activity such as personnel to aid the War and Navy Departments in connection with their medical and nursing requirements or personnel to assist the U.S. Public Health Service.

Ralph H. Kastner, associate counsel of the American Life Convention, in an article in the *Eastern Underwriter* of Oct. 9, 1942 on "The Great Importance of Life Insurance in the Nation's War Effort," has covered his subject so comprehensively and effectively that it is difficult not to follow him rather closely.

"The names of company officials will be found prominent in every ac-

tivity that is keyed in with endeavors to advance every best interest of the nation. Many field men are in this category, too. . . . Every company is proud of the many war activities in which their home office and field personnel are engaged. . . . All eagerly accept every opportunity to advance their community objectives. These and countless other war-effort activities are willingly carried on, notwithstanding added burdens that rest upon all in their every-day work because of depleted man-power.

"The Keep Well Crusade sponsored by the Institute of Life Insurance has the unanimous support and endorsement of national, state and local officials alike. A nation-wide campaign designed to educate our people is being carried on through the medium of advertisements, urging five direct rules of health—eat right; get sufficient rest; visit doctor once a year; keep clean; and play some each day. Recognition by, and adherence to these simple rules of health by the public, it is expected, will do much to diminish the estimated four billion man-hours which are annually lost through sickness and accident.

"Representatives of life company organizations participated in conferences with the Veteran's Administration to work out the original and modified regulations and interpretations of the current Soldiers' and Sailors' Relief Act, which has just been liberalized.

"Many life companies have adopted the policy of instructing their field forces to see that no men in service are solicited or sold an old line life policy, until such individuals have purchased the maximum permissible amount of National Service life insurance."

### AID IN WAR FINANCING

It is illuminating to put life insurance to the test of what are its characteristic contributions to the country's war effort. The greatest services are those inherent in its special nature which have been summarized by Marriner S. Eccles, chairman of the

## LIFE INSURANCE

Board of Governors of the Federal Reserve System: "Insurance companies are large investors in Government securities so that the bulk of savings put into the insurance companies in the form of premiums thus help in financing the war. Likewise, investment in life insurance serves to divert funds from consumer markets and thus to reduce inflationary pressures. And, of course, insurance is a store of future protection for the beneficiaries of insurance policies. Accordingly, I feel that next to the purchase of Government Savings and War bonds and stamps by the public, investment in life insurance is particularly to be encouraged at this time."

The life insurance companies have about \$9,300,000,000 invested in United States Government bonds which constitute the largest single type of investment in the companies' portfolios. The increase for 1942 of \$2,300,000,000 is greater than the entire increase in total assets.

### DEFENSE AGAINST INFLATION

Mr. Kastner adds: "Life insurance is America's first line of defense against runaway inflation. . . . Through the instrumentality of life insurance it is possible to siphon off the supplies of today's excess earnings and lock them up for future delivery at a time when they can prove most beneficial not only to the policyholder and his loved ones but to the nation as well. . . . Not only are additional inflation-breeding dollars put into an effective quarantine for the duration, but those premium funds are actually enlisted in the war effort."

There are about 130 "billions of dollars of life insurance in force, as excellent a standard as can be found to indicate the financial independence, the freedom from subservience and the security of the future—in other words, the things 'worth-while,' for which America is today fighting. Our investment in life insurance is by no means the stake for which we as a

nation are waging war, but, as the foremost example of the willingness of our people to forego today for a better existence tomorrow, it represents more than any other of our private institutions, the American way of life.

"As the demands of total war draw more and more heavily on our older men—our men with families and dependents—the beneficent effects of life insurance become more and more apparent. Consider the direct effect on the offensive spirit of our fighting men that results from a knowledge that the security of those left behind has been made certain. Consider also the general effect on the entire community that the payments of insurance proceeds provides in the way of continuity of income and selfdependence for unfortunate families suffering the loss of a breadwinner."

### AID IN INDUSTRIAL DEVELOPMENT

In considering the new services of life insurance to the war effort, sight must not be lost of how much of our industrial development, which enables us to produce and transport material for prosecution of the war, is due to previous investments of life insurance funds.

At the end of 1942 the companies have about \$11,000,000,000 invested in the corporate securities of industries, the greater part of whose output is now war-diverted or converted. These represent investments in industries supplying transportation, communication, power, light, water, gas, electricity, and many other vital public services, and in industries supplying such essential necessities as steel, iron, lead, aluminum, copper, brass, chemicals, rubber, fibers, textiles, automotive products, drugs, meats, groceries, and grains. Nearly one-fifth of total admitted assets, at the end of 1942, or approximately \$6,500,000,000, will be in real estate mortgages "representing investments in such vital facilities as farms, small homes, apartment houses, hotels, office buildings and factories."



## X. BUSINESS AND FINANCE

### FIRE INSURANCE

By EDWARD R. HARDY

SECRETARY-TREASURER, INSURANCE INSTITUTE OF AMERICA, INC.

#### FIRE LOSSES

The statistics of fire losses in the United States, as compiled by the National Board of Fire Underwriters, are shown below in the usual table, giving figures for 1940, 1941 and 1942. These present, in their way, the best picture of the value of property destroyed by fire. It will be noted that, while the losses for 1942 are less than those of the previous year, they are approximately \$8,000,000 more than those for 1940. There was not in 1942 any one outstanding loss which might be compared to the Fall River fire loss of 1941—one of \$15,000,000—two-thirds of which was due to the loss on rubber, the remainder on other property.

More significance should be attached to the statistics than is apparent on the face of them. It must be remembered that the manufacturing properties of the country are working long hours, and in many cases for a 24-hour day. This means a demand on machinery and employees that presents peculiar problems. The belief is that under such

conditions the chance of loss is much greater than under the eight-hour day. Theoretically this is true, but the interesting fact is that there was in 1942 no substantial increase in the loss by fire which might be attributed to these conditions. The National Fire Protection Association issued a small pamphlet bearing the title "Fires in One Year of War," that is, from Dec. 7, 1941 to Dec. 7, 1942, and this lists some 500 fires, occurring in manufacturing plants for the most part, though some were in warehouses where the value of goods stored was quite large. Nearly all were in plants engaged in some form of war work. Each fire meant the restriction of operations or, in cases of total loss, their elimination entirely until the plant could be rebuilt and work resumed.

Even though the statistics do not show any abnormal loss by fire, it is safe to state that the pressure on manufacturing enterprises is producing conditions which may, in 1943, lead to far more substantial losses than occurred in 1942.

#### FIRE LOSSES BY MONTHS

	1940	1941	1942
January.....	\$ 36,260,650	\$ 26,470,000	\$ 35,565,000
February.....	34,410,250	26,102,000	30,819,000
March.....	29,788,800	31,471,000	30,505,000
April.....	26,656,190	29,330,000	27,960,000
May.....	23,446,590	25,637,000	23,233,000
June.....	19,506,000	24,943,000	22,410,000
July.....	20,322,800	23,698,000	21,000,000
August.....	20,722,100	24,122,000	19,680,000
September.....	21,198,000	24,668,000	20,443,000
October.....	22,091,140	30,833,000	22,621,000
November.....	23,449,000	23,822,000	24,144,000
December.....	28,617,000	31,261,000	36,469,000
Total 12 months....	\$306,409,520	\$322,357,000	\$314,849,000

#### LOSS RATIO

In as much as the fires did not increase and the fire insurance premiums remained approximately the

same, perhaps increasing to a certain extent, the loss ratio was about the same, that is, within safe bounds. It does not for the whole country quite

## FIRE INSURANCE

attain 50 per cent, though for individual companies the record might be different. The 50 per cent loss ratio is close to the amount that can be sustained and still leave a little over after all expenses have been paid. Fortunately the year did not produce a loss ratio which would make these statistics unreliable.

### WAR DAMAGE CORPORATION

During the year there was brought to completion the organization of this Corporation, the purpose of which is to insure property against war damage. The risk is assumed by the Corporation, a government organization, and not by the insurance companies themselves. The individual companies are termed fiduciary agents in the business, and the insurance is written not direct by the Corporation but by the fiduciaries who handle it, if not at their head offices, then through their various agents throughout the United States.

The Corporation has not been in existence long enough to give any statistics of value. It was noticed after a few months that property owners along the seaboard were inclined to take out this form of insurance, which is voluntary, but this was not true in the interior. It also developed that owners of large properties, manufacturing or mercantile interests, generally took out this form of insurance, but the small property owner did not appear to be very much interested in it. This can be readily understood because there has been no bombing in the continental United States and hence nothing to drive home the fact that loss might occur from such cause.

The Corporation is attempting to secure a larger amount of insurance and thus make the spread of their liability cover a wider territory. Rates are established by the Corporation with the advice and help of those trained in insurance. A small commission of 5 per cent is allowed the fiduciary agents for handling the business. It is considered that this is a form of insurance which does not require selling by the usual methods

of solicitation, and hence the commission paid should be kept at the lowest possible point. A year from now there may possibly be some information as to the receipts taken by the Corporation, and even possibly a record of losses paid. It should be stated that the tendency is rather to broaden the coverage, since it was pointed out that bombers which are being tested may fall and injure property and should come under the policy coverage just as much as damage by bombers of a foreign power.

### SABOTAGE

Whenever a fire occurs in a manufacturing plant there all too frequently goes up the cry of sabotage. The record of 1942 does not show any losses of moment due to sabotage, that is, the wilful destruction of property by foreign agents. In fact, such a form of loss in this, as in the First World War, has a tendency to be overestimated or overpublicized, but to those who are acquainted with the facts the loss from this source is not severe. If one recalls the Black Tom loss in the first war, it is mainly because it was outstanding and because it was recently revived by the settlement of claims brought to a conclusion in 1942, having been two decades under consideration for one reason and another.

### RATES

The rates for fire insurance have remained fairly steady throughout the year 1942, no increases or reductions of moment having taken place. Mention should be made at this point of the action brought by the United States Government against the insurance companies, known as the Atlanta suit because of the location of the coming trial. This will probably revive the whole question of the companies' practice of making rates by cooperative methods. The question, however, is a very old one, and has been investigated by nearly every state in the United States. The practice of rate-making has the direct approval by statute in many states, notably New York. The suit is only

getting under way, and it is probable that, whatever the outcome in the lower court, it will be taken eventually to the Supreme Court of the United States. There may be at least a year, if not more, before a final decision is reached. It should be mentioned in this connection that, in the famous case of *Paul vs. Virginia*, which in 1867 was decided by the Supreme Court as vesting the control of insurance in the states and not in the Federal Government, the decision turned on the point that the business of insurance, that is, the selling of policies of insurance, was not commerce, and so did not come under the jurisdiction of the United States Government. In at least two outstanding cases that decision has been attacked, but the Supreme Court has sustained it. (*Paul vs. Virginia*, 8 Wallace, 168. *Hooper vs. California*, 155 U. S., 648. *N. Y. Life Ins. Co. vs. Cravens*, 178 U. S., 389).

### THE STANDARD POLICY

The new standard policy of fire insurance which goes into effect July 1, 1943 in the State of New York has been approved by one other state. It was the original intention that this policy should not be used by any state until three-fourths of the states had approved it. That has been changed, and unless something intervenes, the policy will go into effect in New York. Needless to say, it will take some time to test it out in the field. There is no doubt that a standard policy of fire insurance for the whole country is something very much to be desired, and in the interest of the public as well as the business it is to be hoped that some uniformity will be brought about, whether it be through this new policy, or another.

Increasing experience has enabled the companies to give a broader form of coverage than was possible for many decades after the business was established. This will be of benefit to the insured and likewise to the company because it gives it a more desirable product to sell and leaves less to be taken care of by other

forms of insurance in order to bridge the gap in coverage.

### USE AND OCCUPANCY

This very useful form of insurance, developed about 1880 in Massachusetts, is having the peculiar experience of not being unduly desired by the companies at the present time. The insurance provides for the loss which might be sustained in a business because it is unable to continue after a fire or other loss for an interval until production is again possible. Under present conditions, however, where priorities play such a large part in securing a replacement of material, even if permission to rebuild is granted, use and occupancy insurance is not a type of insurance that is pushed by the companies, as it was in former days. Insurance, after all, is based on normal conditions and not abnormal ones, such as war conditions are, and if the extraordinary, abnormal conditions must be taken care of, then the Government must enter into the picture to the extent of meeting those conditions.

While not strictly speaking a part of this article, still the loss of life from fire must be noted. The outstanding case in 1942 was the Boston night club fire. The latest statistics put the loss of life at 490. Comparison is made with the Iroquois Theatre fire in Chicago when the loss of life was about 600, and in this connection it might be well historically to recall the fire at the Opera House in Vienna many years ago when the loss of life was something more than 300. It was that fire which led to a study of the construction of theatres, and some important improvements were introduced as a result of it, but it was the Iroquois fire which led to a more comprehensive study of safety measures. The effect of such fires (like that of the well-known Asch fire, as it was called, in New York City which occurred in a garment working plant) is to lead to improved conditions. The Asch fire is noted in history as a primary cause of the devel-

## MARINE INSURANCE

opment of safety methods in the erection and maintenance of manufacturing plants.

It should be pointed out, however, that whether it be a case of fires in places of amusement or in manufacturing plants, the body of knowledge of fire protection is now so extensive

and available that there need be no such disasters as occurred in 1942. It is not enough to have knowledge available; it is not enough to have our statute books full of fire prevention regulations; it is necessary that the enforcing powers see to it that these laws are obeyed.

## MARINE INSURANCE

By S. D. McComb

MANAGER, MARINE OFFICE OF AMERICA

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### W. S. A. UNDERWRITING

Probably the outstanding feature of Marine Insurance in 1942 was the part taken by the Government in war risk insurance. Prior to our entrance into the war, Congress had authorized the War Shipping Administration to write war risk insurance on American ships, the cargoes thereon, loss of life and personal injury to the officers and men on board caused by war, and also their personal effects. However, they were limited to American ships that carried no contraband, which many American vessels carried, and in addition our Government was interested in many vessels under foreign flags, particularly former American ships that had been transferred to Panamanian or other Central American registry, and some ships of the Allied Nations which had been overrun by Germany. All of these were engaged in the war effort, so that the War Shipping Administration was unable to provide war risk insurance on many ships in which they had an interest.

### WITHDRAWAL OF MARINE INSURANCE SYNDICATES

Up to December, 1941, the American Marine Insurance Syndicates had been writing war risk on American hulls or foreign hulls which were owned or controlled by Americans, but not writing very large lines, keeping the maximum to about \$1,000,000, the balance usually being placed abroad. After war had been declared, the War Shipping Administration re-

quested the Syndicates to write the entire line on all these hulls, indicating they preferred the war risk insurance to be placed here, which the Syndicates agreed to do. Shortly after the beginning of 1942, the War Shipping Administration requested the Syndicates to publish rates which would be good for acceptance for 30 days and with respect to coastwise West Indies trade, to cover for a 60-day period. War risk rates had been subject to day-to-day changes to meet changing conditions and this was a very radical innovation. However, the War Shipping Administration claimed it was necessary to establish freight rates, the most important factor of which was operating costs, war risk premiums being a large item in these costs. The Syndicates reluctantly agreed and on Jan. 25 promulgated the rates for February. The German submarine attacks on our coast had just begun and during February the Syndicates were obligated to accept risks at these rates which were daily becoming more and more inadequate. At the end of February the Syndicates' schedule for March based on these sinkings was promulgated. The War Shipping Administration promptly declared it unreasonable and offered to take the business on a much lower basis. The law in respect to the Government writing war risk insurance had been amended since we entered the war. The insurance fund was increased to \$250,000,000. They no longer had to consider market



## X. BUSINESS AND FINANCE

rates but could write at what they believed was to the best interests of our commerce, and cargo could be written at token rates after consultation with the Office of Price Administrator. Since the law has been amended, costs and the retail prices of imported goods have been determining factors in war risk rates named by the Government rather than have the rates reflect the actual risk.

Due to the greatly lowered rates named by the Government on hulls most shipowners renewed their policies with the Government. The rate schedule for March was the last promulgated by the Syndicates, and the War Shipping Administration was advised of the Syndicates' desire to retire from their understanding. Shortly thereafter the Syndicates discontinued writing war risk on hulls altogether. However, the commitments made the first months of the year resulted in a very heavy loss, and the indications are that losses will run from \$30,000,000 to \$35,000,000 in excess of premiums received.

### CARGO POLICY SITUATION

In respect to cargo, the situation was entirely different. There are a very limited number of owners of ocean-going shipping. These owners are in constant touch with the War Shipping Administration which has complete control over the operation of their ships, fixes the manning schedules, wages, bonuses, freight charges, where and when the ships are to sail, and what they are to carry. So it is a relatively simple matter to arrange the war risk cover on them. On the other hand, there are several thousand importers and exporters spread over all the 48 states, most of whom had never had any dealings with the War Shipping Administration which was only accepting cargo business on an individual shipment basis and under a procedure that was difficult to follow. After many consultations with marine underwriters, a plan was evolved whereby the War Shipping Administration appointed members of the

American Institute of Marine Underwriters as underwriting agents of the Administration to issue open import war risk policies on their behalf under the government form, all at rates, terms, and conditions put out by them from time to time. This plan went into effect on Aug. 1 and under it any importer having an open marine policy in any company which is an underwriting agent of the Government (and almost every company writing import business is such an agent) can go to the broker or agent from whom he procured his marine policy and secure a government war risk policy. As the government rates on imports are very much lower than those charged by the companies, a growing percentage of importers are taking out government war risk. The War Shipping Administration has not as yet authorized open export policies, and as domestic price control is not involved with exports, the government rates do not differ materially from underwriters' rates. The larger portion of war risk on export cargoes is still placed with underwriters.

### LOSSES FROM SUBMARINE ATTACKS

Cargo underwriters had no agreement with the Government in respect to rates, so when the submarines appeared off our coast in January, 1941, they were free to advance rates at once, which they did. The intensity and persistence of the German attacks continued to produce losses far in excess of estimates, regardless of increasing rates. Sinkings have been less since August, and it is hoped that the combined Navies and Air Fleets of the United Nations can continue to keep the submarines in check. When all the figures for 1942 are in, they will show that the American Cargo War Risk Reinsurance Exchange suffered a loss over all premiums collected of around \$20,000,000. Of course this loss is divided among all the companies in the country writing cargo war risk but nevertheless it is a very severe one.

## CASUALTY INSURANCE AND CORPORATE SURETYSHIP

### IMPROVEMENT IN MARINE BUSINESS

In respect to strictly marine business, the results are not as bad as on the war risk but they can not be considered good. The bright side is that they are improving. In December 1941, when Japan suddenly forced us into war, we were very unprepared, as we also were when the Germans suddenly commenced their submarine campaign on our Atlantic Coast and the Japanese started submarine raids in the Pacific in January.

This resulted in considerable confusion in respect to ship operation, both among the shore personnel and those on the ships. Ships were being requisitioned by various departments of the Government, taken off their regular runs, and sent to places where the Army or Navy required supplies. Much of the cargo already on board was either discharged at once or requisitioned by the Government. The masters and crews were in many cases taking their ships to ports they had never previously visited and they navigated under strange conditions, sometimes running in convoys and into or from harbors where all light-houses had been extinguished and radio directions shut off. All of this resulted in very heavy losses both to ships and cargoes during the first months of the year under marine policies over and above all the claims on the war risk policies. However, conditions gradually became more orderly, and with experience navigation under wartime conditions improved. The underwriters took prompt measures to meet the changed conditions.

An agreement was reached in respect to time policies on hulls, that

on renewal the rate would be increased at least 37½% to help take care of the additional claims arising on marine policies due to wartime operation. On cargo a series of surcharges was agreed upon to be paid in addition to the regular marine rate; this varied to different parts of the world depending on the increase in losses due to war conditions in the different areas.

### MISSING VESSEL AGREEMENT

As many shippers placed their war risk insurance in a different market than their marine insurance, difficulty arose in settling claims in respect to "missing vessels," that is, a vessel that did not arrive in port and was undoubtedly lost, but the cause of the loss was unknown, and also cases where it was not entirely clear whether the loss would be considered as falling under the war or the marine policy. To meet this situation, the "Missing Vessel Agreement" was made among underwriters, so that the assured was promptly reimbursed for the loss and the underwriters arranged to settle among themselves when the actual cause was known or when an agreement could be reached on the probabilities. This agreement has also been entered into with the War Shipping Administration.

During the entire year underwriters were working to provide covers which would properly protect those engaged in commerce, meeting the changing conditions promptly and keeping rate schedules on a basis that was fair. There was some confusion when war was suddenly thrust upon us but now orderly procedure prevails.

## CASUALTY INSURANCE AND CORPORATE SURETYSHIP

By WILLIAM LESLIE

GENERAL MANAGER, NATIONAL BUREAU OF CASUALTY AND SURETY UNDERWRITERS

### THE ACCIDENT RECORD

While the entire system of insurance rests upon the probability of misfortune, casualty insurance, in

particular, is largely concerned with compensation or indemnification in connection with accidental injuries and accidental deaths. It seems ap-

propriate, therefore, to consider some of the influences upon the accident record.

The year 1942 witnessed a substantial decrease in traffic accidents as compared with 1941, when the highest fatality record in history was established. This decrease was 27 per cent for the first ten months of the year. Three factors were responsible for this important improvement: (1) sharp reduction in speed limits, both by governmental order and voluntary action by drivers; (2) reduction in road mileage due to tire and gasoline rationing, and (3) greater emphasis upon the prevention of traffic accidents by official and non-official safety organizations.

The marked acceleration in the nation's defense program was accompanied by a serious increase in industrial accidents. In 1941, such accidents were 30 per cent higher than in 1940, while employment in those industries increased only 17 per cent. However, by the late summer of 1942 the situation improved to such an extent that Secretary of Labor Perkins was able to state: "For the first time since the beginning of the defense program early in 1940, the increase in accidents has been less than the increase in employment, as shown by the preliminary report of industrial injuries, including fatal accidents. . . ."

A considerable contribution to this improvement unquestionably was made by the National Bureau of Industrial Protection which was established in Washington by the fire and casualty insurance carriers as an aid to the war effort. In addition, the casualty companies both individually and through their long established safety bureaus are devoting their full energies to the whole field of accident prevention. They realize that production and conservation of manpower are the keys to victory in this war and that accident prevention in the plant, on the highways, and in the home has thus become a major war effort as well as a desirable humanitarian objective.

### STATE LEGISLATION

Although only eight state legislatures and Congress were in regular session in 1942, there was a considerable volume of legislation affecting casualty insurance and corporate suretyship. Of particular importance were a number of amendments to the New York State Motor Vehicle Safety Responsibility Law, enacted in 1941 and effective Jan. 1, 1942. Among these amendments were one limiting the requirement for reports of accidents to those causing personal injury or property damage of \$25 or over; another modifying the so-called "marketability" provision under which any automobile which became subject to the law was immobilized; and a third providing that a person for whom proof of financial responsibility is furnished by his employer shall not be required to give security under the law.

The tendency in recent years to increase benefits under the workmen's compensation laws was again manifested with several amendments along that line passed, particularly in Rhode Island. Noteworthy, too, is the fact that Mississippi still remains the only state without a workmen's compensation act, a bill for a new law having failed to pass. In the field of corporate suretyship are the newly enacted laws in Mississippi and New York to regulate personal sureties and a statute passed in Virginia permitting joint control by the principal and the surety of funds or property for which the surety's obligation is given. The first state health insurance scheme was set up in Rhode Island in the form of the State Sickness Insurance Fund.

### FEDERAL LEGISLATION

Among the laws passed by Congress are those dealing with war risks. One known as the War Damage Act provides a means of insuring property against damage or destruction caused by certain defined risks of war. Another provides compensation out of Federal funds for war risk injuries sustained outside the continental United States by certain em-

## CASUALTY INSURANCE AND CORPORATE SURETYSHIP

ployees of the United States Government or of contractors performing work for the Government in connection with the war effort. A companion measure dealing with war risk injuries sustained by persons within the continental United States is still in committee and will probably not

be enacted by the present (77th) Congress.

The countrywide experience of 77 stock insurance companies, for the calendar year 1941 together with totals for the two preceding years is presented in the following tabulation:

### THE CASUALTY EXPERIENCE EXHIBIT

(Calendar Year 1941)

Line of Coverage	Earned Premium	Incurred Losses Excluding Claim Expense	Incurred Expense	Underwriting Profit (+) or Loss (-)
Accident.....	42,211,072	16,244,256	21,442,845	+4,523,971
Health.....	38,785,567	27,268,152	11,939,656	-422,241
Automobile Liability.....	192,775,509	94,194,605	94,655,600	+3,925,304
Automobile Property Damage Liability.....	54,918,563	33,841,125	30,194,318	-9,116,880
Automobile Collision.....	3,793,250	2,025,280	2,018,400	-250,430
Liability Other than Auto.....	77,720,658	23,295,291	46,202,042	+8,223,325
Property Damage and Collision Other than Auto.....	6,487,534	1,776,030	3,507,580	+1,203,924
Workmen's Compensation.....	162,383,878	92,176,178	67,188,965	+3,018,735
Fidelity.....	36,799,476	7,081,779	21,111,423	+8,606,274
Surety.....	47,852,225	4,789,215	31,184,877	+11,878,133
Glass.....	9,334,978	3,914,432	5,452,541	-31,995
Burglary and Theft.....	24,962,670	5,993,858	14,032,671	+4,936,141
Boiler.....	8,008,310	1,237,376	7,024,290	-253,356
Machinery.....	4,452,356	1,605,054	3,369,094	-521,792
Credit.....	2,587,894	222,923	1,835,954	+529,017
Sprinkler Leakage.....	645,943	208,920	398,110	+38,913
Miscellaneous*.....	892,942	1,300,843	448,329	-856,230
Totals for 1941				
77 stock companies.....	714,612,825	317,175,317	362,006,695	+35,430,813
Totals for 1940				
78 stock companies.....	640,146,257	269,090,118	332,012,573	+39,043,566
Totals for 1939				
77 stock companies.....	619,192,928	252,685,784	321,001,480	+45,505,664

\* Miscellaneous includes Live Stock, Non-Cancellable Accident & Health, Auto Fire, Theft and Embezzlement.

### AUTOMOBILE LIABILITY INSURANCE

There was unusual activity in the field of automobile liability insurance during the year. Initially, the problem was one of broadening coverage, through liberalizing interpretations of the policy, to meet wartime needs. For example, the carriers agreed that coverage under the policy shall be unaffected by ride-sharing arrangements even though the riders may pay for the privilege in one form or another; also, the carriers announced that their policies provide coverage while the automobile is used in the

furtherance of any war or defense activity provided it is correctly rated for its normal use. If the owner or operator has insurance covering his liability for the operation of automobiles of others, such coverage is extended by interpretation to apply to any type of automobile that may be operated by the insured in war or defense activities.

Then came gas rationing with its effect upon the use and operation of automobiles of the private passenger type. The problem confronting the carriers was to determine in advance of any experience, the effect which



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this might be expected to have upon losses covered by their policies. On the one hand was the anticipated reduction in the number of accidents due to lesser use and reduced speed; on the other were the probable effects of share-riding which increases the potential number of claims per accident, the increasing cost of claim settlements and verdicts, the danger from the use of worn tires and defective parts, the hazards introduced by black-outs and dim-outs, and others of less importance. The actual developments which follow the introduction of gas rationing in the Eastern territory were carefully studied, and in consequence by Oct. 20 a substantial reduction in bodily injury liability rates for private passenger cars was announced for the entire country.

The new rates were promulgated as wartime emergency rates because it is well recognized that, when the present restrictions are liberalized or withdrawn, these rates will have to be increased to meet the new conditions. All previous rating plans applicable to private passenger automobiles were suspended, and in their place the following classes were established: Class "A"—each private passenger automobile for which the owner is limited to a Basic "A" ("D" for motorcycles) gasoline ration book; Class "B"—each private passenger automobile for which the owner has a Supplemental "B" ("D" for motorcycles) gasoline ration book; and Class "C"—all others.

### MISCELLANEOUS LIABILITY INSURANCE

The year was marked by developments directly attributable to the war. The controlled distribution of gasoline and tires and the imposition of driving regulations popularized the bicycle as a means of conveyance and transportation, and created a demand for specific liability insurance protection. The result was the adoption of classifications and endorsement forms for non-power-driven bicycles, careful consideration being given to the conditions for which the coverage was

drawn. The formation of civilian volunteer war units, such as the air raid protective service, auxiliary firemen and policemen, and nurses aides, resulted in the adoption of a new form of insurance protection covering the personal liability of individuals engaged in this work. In order to provide coverage for army and navy post exchanges, the classification procedure was greatly simplified so that both the premises and product liability exposures are covered under one classification on a single premium basis. In addition to these particular changes, the companies cooperated with the government, as with representative insurance purchasers, in the development of rates and coverage for national defense projects such as ordnance plants.

A new program of medical payments coverage in connection with residence risks was adopted in the early part of the year. The new coverage expands and rounds out the program of liability insurance available to owners or occupants of private residences. Heretofore this has included residence liability insurance, employers' liability and medical aid coverage for domestic employees. The new medical payments insurance covers the householder's moral obligation to provide medical, nursing or hospital care, or reasonable funeral expenses when death occurs, for members of the public who sustain bodily injury, sickness or death, caused by accident, while on the premises or away from the premises if due to an occurrence originating on the premises. The insurance may be written in limits of either \$250 or \$500.

A revision of the rates for Manufacturers' and Contractors' Bodily Injury and Property Damage Liability insurance was promulgated in the latter part of the year. There was a complete revision of Bodily Injury rates for New York and Louisiana, resulting in reductions in the average premium levels. In the rest of the country the rates for a number of classifications were reduced as

## CASUALTY INSURANCE AND CORPORATE SURETYSHIP

much as 50 per cent. Rates for Property Damage Liability insurance were revised countrywide, the result being an over-all reduction. A number of changes clarifying the scope of certain classifications and, in other cases, simplifying the classification and coding of risks, accompanied the rate revision.

### WORKMEN'S COMPENSATION INSURANCE

One of the year's most significant developments is the move on the part of stock carriers to introduce gradation of expense provisions by size of risk on a countrywide scale. Such a gradation is already effective in New York, Massachusetts, and Maine. Extension of the principle through the medium of retrospective rating is now under formal consideration by the rate-making organizations.

The impact of the war had a profound effect upon the business of workmen's compensation insurance during the year. Industrial processes underwent substantial modifications. Mass production with its assembly line processes was introduced on a very wide scale, greatly increasing the scope of industrial operations. The construction of bases outside the continental United States presented a new and unique group of problems. The general expansion and speed-up in industry involves the use of thousands of untrained workers, abnormally long hours, extensive employment of women to perform tasks normally performed by men, rapid deterioration of equipment and inadequate opportunity to maintain equipment at normal high standards of operating conditions, all of which operate to increase loss costs. However, increased payrolls resulting from increased wage rates for overtime tend to offset this adverse effect. These conditions present serious difficulties for the rate-maker in attempting to evaluate the elements affecting compensation insurance.

The standard rate-making program is admittedly not entirely suitable for meeting current conditions. Thus far the standard program has been fol-

lowed, with increases being made in only nine states during 1942, the continued favorable experience incurred in the pre-war years producing reductions elsewhere. A revision of the program, however, has been under consideration for some time. The question of the contingency provision as determined under the standard rate-making program has provoked extensive discussion. The suggestion has been made that the program be revised to provide for a negative contingency loading when the accumulated past underwriting profit exceeds a certain amount. This would mean the deliberate promulgation of inadequate rates. The fallacy of such a program should be obvious. The whole question of the contingency provision must be reconsidered in the light of the present and probable future scale of Federal taxation, since a substantial part of any underwriting profit will have to be paid in taxes to the Federal Government with no counterbalancing credit being received in the years of underwriting loss.

The "Comprehensive Rating Plan for National Defense Projects" instituted in 1941 is serving its purpose well and is now being used on projects under several governmental agencies in addition to the Army and Navy Departments.

### ACCIDENT AND HEALTH INSURANCE

The induction of approximately 5,000,000 women into essential industries and a continual flow of workers in that direction has opened new markets for accident and health insurance. There has been an increase in the demand for non-occupational accident policies on the part of such workers, the purpose being to expand their insurance protection beyond the scope of compulsory workmen's compensation which is limited to occupational risks.

While most policies exclude coverage for military or naval service, policyholders in such service will, nevertheless, be accorded limited protection by special agreement until

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Jan. 1, 1944. These agreements may be extended beyond that period. The extension is confined to those "on land within the United States," but enemy invasion or bombardment is excluded from coverage. Not all insurers grant this extension, and the terms vary among the companies.

### **BOILER AND MACHINERY INSURANCE**

In the boiler and machinery lines two events stand out in importance. First was the introduction of the principle of graded rate reduction by size of risk based upon a comparable graded reduction in the allowances for acquisition and administration expenses. This accompanied a general revision of manual rules and rates designed to reflect the increase which occurred both in losses and inspection costs. The second involved the endorsement of all policies to clearly express the fact that the policy does not cover "non-accidental" losses such as war risk, vandalism, malicious mischief, and the like. The policies were never intended to give and have never been construed by underwriters as giving such coverage, but the policies of the War Damage Corporation are excess over other available insurance, which introduces the possibility of conflict with the War Damage Corporation over this question of construction. To avoid any such possibility, which could only be harmful to the interests of policyholders, the above-mentioned exclusion has been attached to all policies. Vandalism and malicious mischief can be covered for an additional premium, and war risk can be covered through the War Damage Corporation. The net result is a clarification of the coverage afforded normally without restricting the opportunity of policyholders to buy the complete protection if they so desire.

### **BURGLARY, THEFT, AND ROBBERY INSURANCE**

Comparatively few changes took place in this field during the year. The war has brought some new problems, most of which have not re-

quired any modification of rules, rates, or policy forms. In a few instances, such as that of Post Exchanges, a special program has been developed.

### **GLASS INSURANCE**

The absence of a "War Risk Exclusion" in plate glass policies has been the source of some concern, particularly as the policy of the War Damage Corporation is excess over other available insurance. It is generally agreed that insurance against such war risk loss should be handled by the War Damage Corporation and consequently, from Oct. 1, 1942, all new and renewal policies were issued with an exclusion of the precise war risk losses that are assumed under policies issued by the War Damage Corporation.

### **SURETY BONDS**

The war effort continued to be the major problem facing corporate suretyship during the year. The huge program of construction and supply, made necessary by the tremendous increase of armed forces, resulted in an over-expansion of many of the industries contributing to the war effort. Surety underwriters have been called upon to guarantee performance of many contracts in connection with such expansion, and suretyship has, in each instance, met the demands.

The year 1941 and the first half of 1942 saw a substantial increase in surety premiums. This, however, should not be construed as a commensurate gain in profit. Surety losses are rarely current. They are latent and, generally speaking, do not come to the surface until a year or two after the premiums have been written.

An outstanding contribution to the war effort by corporate suretyship has been the substantial reduction in premium and commission rates on performance and payment bonds written in support of war contracts. The practice of grading commission on the larger contract bonds has been extended to cover a greater number of cases. This has resulted in prac-

## CASUALTY INSURANCE AND CORPORATE SURETYSHIP

tically all war contracts coming within the graded commission rule.

A singular achievement of corporate suretyship has been the opening of credit facilities to many contractors where such facilities would not otherwise exist under the stress of wartime economy. To many other contractors the surety bond has had a stabilizing effect on a wavering credit structure. The over-expansion of contractors, due to the acceptance of large government jobs, brought them into new fields where their credit position was unknown or resulted in such a disproportion between their quick assets and their credit needs that extension of credit to them was no longer warranted. The continuation of such a condition would have resulted in the breakdown of many vital contracts. The Government found that this credit gap could be bridged with the use of the Payment Bond, because credit men throughout the country were familiar with this bond and could rely upon it without the painstaking effort and doubtful value of alternative security.

Fidelity lines have also shown an increase because of the war effort. The redistribution of manpower has resulted in the placing of great responsibility upon the shoulders of many who were previously untried. Businessmen are finding that corporate suretyship can relieve them of much of the worry and concern over the integrity of such new employees.

### POLICY COVERAGE—GENERAL

Every effort is being made to simplify the work of policy writing in the interest of efficiency and economy. With the assistance of state departments, ways have been found

to obviate the use of many endorsement forms. Agreement has been reached to curtail unnecessary revision of forms. Revisions of several policy forms are in progress, but upon completion of this work changes will be confined largely to those which are necessary because of changes in manual rules. Forms now being revised include the several comprehensive liability policies, the schedule automobile liability policy, and the garage liability policy. The use of renewal certificates in lieu of new policies has received much attention, and standard provisions for renewal certificates have been adopted.

### ASSIGNED RISK PLANS

Voluntary agreements among all insurance companies for assuming the hazard of undesirable compensation risks are now in effect in 21 states and the District of Columbia, and compulsory pooling arrangements for such risks are required in Illinois, Wisconsin, Massachusetts, and Arkansas. All carriers are continuing to accept their equitable proportion of such risks, all of which were declined as normally uninsurable by the required number of insurance companies.

Similar agreements in respect of undesirable automobile risks have become effective in 10 states. Generally speaking, these are applicable only to risks which are required to file evidence of financial responsibility under the state law.

All of these plans are functioning very successfully. Up to the end of 1941 nearly 2,000 risks had been assigned, representing an annual premium volume in excess of \$100,000. It is estimated that for 1942 the number of risks assigned will be at least double the number assigned in 1941.



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### PERIODICAL PUBLICATIONS

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| <p><i>Annals, The</i><br/>American Academy of Political and<br/>Social Science, 3457 Walnut<br/>Street, Philadelphia.</p> <p><i>American Banker</i><br/>32 Stone Street, New York City.</p> <p><i>American Business Combined With<br/>System</i><br/>4660 Ravenswood Ave., Chicago.</p> <p><i>American Economic Review</i><br/>Northwestern University, Evan-<br/>ston, Ill.</p> <p><i>American Exporter</i><br/>386 Fourth Ave., New York City.</p> <p><i>American Importer</i><br/>45 East 17th Street, New York City.</p> <p><i>American Import and Export Bulletin</i><br/>8 Bridge Street, New York City.</p> <p><i>American Insurance Digest and In-<br/>surance Monitor</i><br/>605 North Michigan Ave., Chicago.</p> <p><i>Bankers Magazine</i><br/>465 Main Street, Cambridge, Mass.</p> <p><i>Banking</i><br/>American Bankers Association, 22<br/>East 40th Street, New York City.</p> <p><i>Banking Law Journal</i><br/>465 Main Street, Cambridge, Mass.</p> <p><i>Barron's</i><br/>44 Broad Street, New York City.</p> <p><i>Bond Buyer, The</i><br/>67 Pearl Street, New York City.</p> <p><i>Business Week</i><br/>330 West 42nd Street, New York<br/>City.</p> <p><i>Commerce and Finance</i><br/>95 Broad Street, New York City.</p> <p><i>Commercial and Financial Chronicle</i><br/>25 Spruce Street, New York City.</p> <p><i>Credit World</i><br/>1218 Olive Street, St. Louis, Mo.</p> <p><i>Financial Age, The</i><br/>132 Nassau Street, New York City.</p> | <p><i>Financial World</i><br/>21 West Street, New York City.</p> <p><i>Fortune</i><br/>9 Rockefeller Plaza, New York City.</p> <p><i>Harvard Business Review</i><br/>330 West 42nd Street, New York<br/>City.</p> <p><i>Insurance</i><br/>671 Broad Street, Newark, N. J.</p> <p><i>Insurance Advocate</i><br/>123 William Street, New York City.</p> <p><i>Insurance Examiner</i><br/>1 La Salle Street, Chicago.</p> <p><i>Insurance Law Journal</i><br/>214 North Michigan Ave., Chicago.</p> <p><i>Journal of Accountancy, The</i><br/>13 East 41st St., New York City.</p> <p><i>Journal of American Insurance</i><br/>919 North Michigan Ave., Chicago.</p> <p><i>Journal of Business</i><br/>5750 Ellis Ave., Chicago.</p> <p><i>Journal of Commerce</i><br/>505 Chestnut Street, Philadelphia.</p> <p><i>Life Association News</i><br/>11 West 42nd Street, New York<br/>City.</p> <p><i>Magazine of Wall Street, The</i><br/>90 Broad Street, New York City.</p> <p><i>Nation's Business</i><br/>Chamber of Commerce of the<br/>United States, Washington, D. C.</p> <p><i>Spectator</i><br/>Chestnut and 56th St., Philadelphia.</p> <p><i>Sphere</i><br/>742 Munsey Bldg., Washington,<br/>D. C.</p> <p><i>Standard</i><br/>89 Broad Street, Boston.</p> <p><i>Trusts and Estates</i><br/>50 East 42nd Street, New York<br/>City.</p> <p><i>Weekly Underwriter</i><br/>116 John Street, New York City.</p> |
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## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### ECONOMICS

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCES, 3457 Walnut Street, Philadelphia.  
 AMERICAN ECONOMIC ASSOCIATION, Northwestern University, Evanston, Ill.  
 AMERICAN FAIR TRADE COUNCIL, INC., 11 West 42nd St., New York City.  
 AMERICAN HOME ECONOMICS ASSN., 620 Mills Bldg., Washington, D. C.  
 AMERICAN INSTITUTE OF ACCOUNTANTS, 13 E. 41st St., New York City.  
 AMERICAN INSTITUTE OF WEIGHTS AND MEASURES, 33 Rector St., New York City.  
 AMERICAN PETROLEUM INSTITUTE, 50 W. 50th St., New York City.  
 AMERICAN RETAILERS', INC., 128 W. 31st St., New York City.  
 AMERICAN SOCIETY OF CERTIFIED PUBLIC ACCOUNTANTS, National Press Bldg., Washington, D. C.  
 AMERICAN STATISTICAL ASSN., 1626 K St., N.W., Washington, D. C.  
 BETTER BUSINESS BUREAU, NAT'L., 405 Lexington Ave., New York City.  
 CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, 1615 H St., N.W., Washington, D. C.  
 CO-OPERATIVE LEAGUE OF U. S. A., 167 W. 12th St., New York City.  
 FRENCH CHAMBER OF COMMERCE OF THE U. S., 4 E. 52nd St., New York City.  
 GENERAL SOCIETY OF MECHANICS & TRADESMEN OF NEW YORK CITY, 18 W. 44th St., New York City.  
 HOME MARKET CLUB, INC., 38 Chauncey St., Boston, Mass.  
 INSTITUTE OF ECONOMICS, 722 Jackson Pl., Washington, D. C.  
 INTERNATIONAL ACCOUNTANTS' SOCIETY, 3411 S. Michigan Ave., Chicago.  
 ITALIAN CHAMBER OF COMMERCE IN NEW YORK, 80 Broad St., New York City.  
 LEAGUE FOR INDUSTRIAL RIGHTS, 40 Wall St., New York City.

MELLON INSTITUTE OF INDUSTRIAL RESEARCH, University of Pittsburgh, Pittsburgh, Pa.  
 NATIONAL ASSN. OF COST ACCOUNTANTS, 385 Madison Ave., New York City.  
 NATIONAL ASSN. OF CREDIT MEN, 1 Park Ave., New York City.  
 NATIONAL ASSN. OF REAL ESTATE BOARDS, 59 E. Van Buren St., Chicago, Ill.  
 NATIONAL BUREAU OF ECONOMIC RESEARCH, INC., 1819 Broadway, New York City.  
 NATIONAL CONSUMERS LEAGUE, 114 E. 32nd St., New York City.  
 NATIONAL ECONOMIC LEAGUE, 6 Beacon St., Boston, Mass.  
 NATIONAL ECONOMY LEAGUE, 280 Madison Ave., New York City.  
 NATIONAL FOREIGN TRADE COUNCIL, INC., 26 Beaver St., New York City.  
 NATIONAL RESEARCH COUNCIL, 29 W. 39th St., New York City.  
 NATIONAL WHOLESALE GROCERS' ASSN. OF THE U. S., 60 Hudson St., New York City.  
 NEW YORK STOCK EXCHANGE, 11 Wall St., New York City.  
 ORDER OF UNITED COMMERCIAL TRAVELERS OF AMERICA, 632 N. Park St., Columbus, O.

### BANKING AND CURRENCY

AMERICAN BANKERS ASSN., 22 E. 40th St., New York City.  
 AMERICAN INSTITUTE OF BANKING, 22 E. 40th St., New York City.  
 INVESTMENT BANKERS ASSN. OF AMERICA, 531 First National Bank Bldg., 33 S. Clark St., Chicago, Ill.  
 NATIONAL ASSN. OF MUTUAL SAVINGS BANKS, 60 E. 42nd St., New York City.  
 NATIONAL ASSN. OF SUPERINTENDENTS OF STATE BANKS, Nashville, Tenn.  
 NEW YORK CLEARING HOUSE ASSN., 77 Cedar St., New York City.

## X. BUSINESS AND FINANCE

UNITED STATES BUILDING AND LOAN  
LEAGUE, 333 N. Michigan Ave., Chi-  
cago, Ill.

### INSURANCE

ACTUARIAL SOCIETY OF AMERICA, 393  
Seventh Ave., New York City.

AMERICAN INSTITUTE OF ACTUARIES,  
135 S. La Salle St., Chicago, Ill.

AMERICAN INSTITUTE OF MARINE UN-  
DERWRITERS, 99 John St., New York  
City.

AMERICAN MARINE INSURANCE SYN-  
DICATES, 99 John St., New, York  
City.

ASSOCIATION OF CASUALTY & SECURITY  
EXECUTIVES, 60 John St., New York  
City.

ASSOCIATION OF LIFE INSURANCE PRESI-  
DENTS, 165 Broadway, New York  
City.

CASUALTY ACTUARIAL SOCIETY, 90 John  
St., New York City.

NATIONAL ASSN. OF LIFE UNDERWRIT-  
ERS, 11 W. 42nd St., New York City.

NATIONAL ASSN. OF MUTUAL CASU-  
ALTY Cos., 60 E. 42nd St., New York  
City.

NATIONAL BOARD OF FIRE UNDERWRIT-  
ERS, 85 John St., New York City.

NATIONAL BUREAU OF CASUALTY &  
SURETY UNDERWRITERS, 60 John St.,  
New York City.

NATIONAL COUNCIL OF COMPENSATION  
INSURANCE, 45 East 17th St., New  
York City.

NATIONAL FIRE PROTECTION ASSN., 60  
Batterymarch, Boston, Mass.

NATIONAL TRAVELERS AID ASSN., 425  
Fourth Ave., New York City.

SURETY ASSN. OF AMERICA, 60 John  
St., New York City.

TRAVELERS' AID SOCIETY, 144 East 44th  
St., New York City.

## DIVISION XI

# AGRICULTURE AND ALLIED INDUSTRIES

### CONDITIONS IN AGRICULTURE

BY ARTHUR P. CHEW

OFFICE OF INFORMATION, DEPARTMENT OF AGRICULTURE

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#### GENERAL

Tremendous farm activity combined with exceptional growing weather enabled United States farmers in 1942 to answer the Food for Freedom call with a record output for the fourth year in succession. On an acreage above that of 1941, and above the 10-year (1930-40) average, they harvested unprecedented yields per acre. Total food production (crops plus livestock) was about 10 per cent higher than that of 1941, and well adjusted to the need. Crop production was about 15 per cent higher. This output was the response to a farm-goals campaign conducted farm by farm throughout the country through Federal and state guidance, with the backing of price supports and government purchasing for military and lend-lease purposes.

#### PRODUCTION GOALS

Announced in January, the 1942 production goals were a sharp upward revision of goals tentatively formulated before Pearl Harbor. They sought a record output in an unusual form in the face of growing shortages of labor, machinery, fertilizer, and other means of production. Every farm, every unit of farm manpower, every scrap of usable farm machinery, all the fertilizer available, and all the power of agricultural science had a part to play. It was evident that some of the goals would be difficult to reach, especially the

dairy goals and the goals for the oil crops, since farmers had to share labor and materials with industry and with the Army and Navy, change their crop patterns, experiment with unfamiliar crops, and struggle with difficulties in storage, transportation, and marketing. Nevertheless, they succeeded in planting the largest acreage in ten years.

It would have been desirable, had time allowed, to fit the goals more precisely to each region, area, and farm. But speed was essential. Close consideration of different areas and farms, from the standpoint of their capacity to produce, had to be deferred, so that farmers could keep up with the seasons. As soon as possible, however, the Department of Agriculture began a nationwide productive-capacity analysis. Goals for 1943 have been shaped to this analysis, and for livestock production and some crops will be higher than in 1942. For other crops the goals will be about the same. They will be smaller for some vegetables.

As a whole, the production goals for 1942 looked toward an increase of about 6 per cent over the production of 1941, and of nearly 20 per cent over the annual average production in the period 1935-39. In food and feed production, with wheat not counted, the goals called for more than 6 per cent over the production of 1941. Not counting cotton, wheat, and tobacco, of which crops we had large stocks on hand, the goals sought



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an increase of 25 per cent over the 1935-39 average.

In milk, the Department asked for 8 per cent more production than in 1941, the previous all-time high year. In eggs the increase asked over 1941 production was 13 per cent; in hogs, 14 per cent; in cattle and calves marketed for slaughter, 8 per cent; in sheep and lambs, 2 per cent; in chickens, 10 per cent; in peanuts, 155 per cent; in soybeans, 54 per cent; in flaxseed, 34 per cent; in dry field peas, 73 per cent. All-out production was the target in such lines as soybeans, peanuts for oil, and meat. Production up to processing capacity was the goal for canning peas, canning tomatoes, sugarcane, and sugar beets.

### PRODUCTION ACHIEVEMENT

Such crops as wheat, rice, commercial vegetables, fruits, and sugar approached or exceeded all past records. Numbers and production of farm livestock, exclusive of horses and mules, advanced to record heights; output of milk and eggs rose far above previous levels. Feed grains and also hay and forage gave larger supplies than ever before, and pastures were at their best since 1910. Expanded acreage of oilseed crops assured record production of vegetable oils and high-protein feed.

Late estimates indicated the food and feed crop production, exclusive of wheat, might be as much as 14 per cent above the level of the previous year. As a whole, both for food and non-food production, the goals were realized or slightly exceeded. Hog and cattle slaughter promised to equal, and sheep and lamb slaughter to exceed the goals by about 5 per cent. Chicken production about equaled the goals; egg production exceeded the goals by 2 per cent or more. Milk production fell short but exceeded the record production of 1941 by 4 per cent.

In yields per acre 1942 ranked far above any past year. Indications were that the yields would average 13 per cent greater than those of 1941, the previous record year, and

14 per cent and 16 per cent higher than those of 1940 and 1937, the next highest years. Even higher yields would have been obtained had the growing season for sorghums, soybeans, beans, and late fields of other crops not been cut short by exceptionally cold weather in late September, accompanied by frosts over nearly the whole area from the Canadian border down to the southern borders of Colorado, Kansas, Tennessee, and Pennsylvania.

Crops with record high yields included: corn, wheat, rye, cotton, hay, beans, peas, potatoes, and various fruits and vegetables. Oats, barley, sugar beets, sugarcane, and tobacco showed yields exceeded only a few times in the last 50 years. With the exception of peanuts, which had been heavily planted in new areas, no major crop gave a less-than-average yield. Practically all states shared in the record yields. There was record production in sugar and sirup crops, in fruits, in canning crops, and in commercial vegetables for market.

Output of cotton, tobacco, and potatoes, because of the very small acreages grown, was well below top figures of past years. All these crops, however, gave record or near-record yields per acre.

The total wheat crop was about 984,000,000 bushels, only 2 per cent below the record production harvested in 1915. Corn production was expected to exceed 3,000,000,000 bushels for the third time on record, and it is likely to exceed even the big crops of 1906 and 1920, the largest up to this time. Total feed grain production was the largest on record.

Oats production was nearly 1,370,000,000 bushels, more than in any year since 1925. Barley, grown on nearly 17,000,000 acres, or 3,000,000 acres more than in any year prior to 1941, gave a production estimated at 426,000,000 bushels, 67,000,000 bushels more than in the most favorable season of the past. The volumes of rice and flaxseed harvested were by far the largest to date.

Oilseeds made the most spectacular

## CONDITIONS IN AGRICULTURE

showing on record acreages of soybeans, peanuts, and flaxseed. Production of cottonseed also was fairly large. The total production of these four oilseed crops approached 15,000,000 tons, or about 40 per cent more than the quantity harvested in any past year. Hay and forage production was a record that may stand for some years.

### EXPANDING FOOD REQUIREMENT

Estimates of the food requirement continued to expand during the year. Men in the armed forces eat more than do civilians, especially of animal products; and the armed forces of the United States became more numerous from week to week. Civilian food consumption increased with consumer buying power. It affected particularly the animal products and the vitamin-rich fruits and vegetables, in higher demand also for Army and Navy use and for lend-lease export. In energy or calorie value the civilian food demand rose less. There was a constantly larger United Nations food call to consider. In October and November, for example, the daily average of the purchases by the Agricultural Market Administration for lend-lease and other purposes exceeded \$5,000,000, as compared with an average of about \$3,000,000 a day in the first 15½ months of lend-lease operations. Shipping was the principal lend-lease bottleneck; the requirement was far above the shipping power.

Civilian demand for food at home is rising, but in aggregate energy value the change, so far, is not impressive. More significant is the demand for certain kinds of food, especially the animal proteins and the vitamin-rich fruits and vegetables. This reflects the universal urge of human appetites, which appears to be nutritionally sound. People with higher and steadier incomes now than they had in peacetime, and with exacting war-production jobs, try to lift the working power of their diets to correspond with their harder work. They use more of what it takes to

produce that effect. Civilians under present conditions eat more meats, dairy products, poultry products, fruits, and vegetables than most people do in peacetime.

Such foods all require great manpower for their production. Crude foods like grains and sugar, in proportion to their work cost, have much more energy value. In their original forms, moreover, the animal proteins and the protective foods are highly perishable, and they all carry a large useless water content. Dairy products, beef, and mutton are subject to the long-life cycles and slow rates of multiplication of animals. Moreover, the animal products require the production previously of a feed crop. Fruits have the longest life cycles. Vegetables and fruits must be handled promptly and skillfully during a short, sharp harvesting peak. Hence there seems to be a case against the foods in which the bulges of demand have shown. They seem uneconomical in wartime, but the use results of the meats, dairy products, poultry and eggs, and of the fruits and vegetables, offset their higher manpower cost.

To make certain of sufficient meat for Army, Navy, and lend-lease uses, the Foods Requirements Committee in September set up a policy of limiting total packer deliveries of meat for civilian consumption and placed the limit for such deliveries during the final quarter of 1942 at the following percentages of total packed deliveries during the final quarter of 1941: pork, 75 per cent; beef, 80 per cent; lamb and mutton, 95 per cent; veal, 100 per cent. To provide for fair sharing of this meat supply, the committee asked civilians voluntarily to hold their consumption at 2½ pounds per person per week. The limitation figures for the last 3 months of 1942 indicate an over-all reduction of 21 per cent below the quantity of beef, veal, pork, lamb, and mutton available in the last quarter of 1941.

Formal consumer rationing of meats probably will be instituted early in 1943 during which there will

## XI. AGRICULTURE AND ALLIED INDUSTRIES

be available to civilians about 17,500,000,000 pounds of dressed meat carcasses. Converting dressed carcasses to retail cuts involves a shrinkage of 10 per cent; hence, the supply of retail cuts will total 15,750,000,000 pounds for the 12-month period, or 303,000,000 pounds a week. This is to be shared among 128,000,000 Americans not in the armed services. Babies and vegetarians eat no meat, and children, invalids, and old people eat less than average adults and adolescents. Reckoning 14,000,000 half rations of meat and 114,000,000 full rations gives a total of 121,000,000 full rations. The allowance for each adolescent and adult of normal meat-eating habits is arrived at by dividing the 121,000,000 full rations into 303,000,000 pounds. This gives 2½ pounds per person per week.

### PRICE CONTROL

Only about 60 per cent of the products that enter into the index of prices received by farmers came under the influence of the April 28 General Maximum price regulation. The other 40 per cent was exempt. This exemption was the result chiefly of the 110 per cent of parity limitation in the Emergency Price Control Act of 1942. It resulted in a disparity between the behavior of the controlled and the behavior of the uncontrolled prices. For example, controlled prices of foods went down 1 per cent from mid-May to mid-June and rose only 0.3 per cent from mid-June to mid-July, whereas uncontrolled prices of foods rose 4.8 per cent from mid-May to mid-June and 2.5 per cent from mid-June to mid-July. As a whole the cost of living advanced only very slightly in the first and second months after promulgation of the General Maximum price regulation, though from the outbreak of the war to near the end of April 1942 it had increased nearly 17 per cent. The uncontrolled prices were a danger.

As mentioned, uncontrolled food prices were exempt because of the 110 per cent limitation under the Emergency Act. In full this limita-

tion forbade OPA to set ceilings on processed or unprocessed agricultural commodities below a point which would return to farmers the highest of these four prices: 110 per cent of parity; the market price on Oct. 1, 1941; the market price on Dec. 15, 1941; or the average price from July 1, 1919, to June 1929. Many agricultural commodities were far below parity when this law was passed, and it seemed then that if farm prices were ever to average parity they should be free to rise slightly above parity at least part of the time.

By the summer of 1942 the situation had become wholly different. Farm prices had gone above parity on an average, and consumer income seemed likely to support a continuation of the upward trend. Moreover, some groups regarded the 110 per cent of parity provision as evidence that farmers wanted more than their fair share of the national income, that they were war profiteers. It served as an argument against economic controls in other fields. Accordingly, the Secretary of Agriculture recommended in a radio speech on Aug. 19 that it be repealed, in line with the President's earlier recommendation that "the original and excellent objective of obtaining parity for the farmers of the United States should be restored."

In a message to the Congress on Sept. 7, the President emphasized aspects of his seven-point inflation-control program which had not been realized and asked for legislation to take care of them. He noted especially that the prices of uncontrolled foods had advanced considerably and were still going up. Under the 110 per cent limitation, said the message, the lowest average level for all farm commodities at which ceilings could be imposed was not 110 but 116 per cent of parity, and for some commodities it was as high as 150 per cent. Along with a renewal of the recommendation to restore the parity objective, the President asked Congress to consider the advisability of passing legislation which would place



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a floor under farm prices, in order to "maintain stability in the farm market for a reasonable future time."

The outcome of the message, and of the Congressional debates which followed it, was the enactment of an anti-inflation law (Public 729, approved Oct. 2, 1942). This measure directs the President, through any government agency, to stabilize prices, wages, and salaries, and prohibits ceilings on farm commodities or their products below parity or comparable prices or below the highest prices received between Jan. 1, and Sept. 15, 1942, with adjustments for grade, location, and seasonal differentials.

Though authorizing adjustments to correct gross inequities, it prohibits this power from being used to establish maximum prices below parity or comparable prices. Significantly, it requires modifications in price ceilings on farm commodities or their products when such modifications are necessary to increase production for war purposes or to reflect increases that may have taken place since Jan. 1, 1941, in labor or other costs. It provides, too, that a fair and equitable profit margin shall be allowed in fixing the prices of farm commodities or their products and that adequate weighting shall be given to farm labor in computing agriculture's costs.

Other provisions important to agriculture raise the loan rate for basic agricultural commodities to 90 per cent of parity, but authorize the President to continue the present 85 per cent rate if he determines that such action is necessary to prevent an increase in the cost of feed for livestock and poultry or to aid in the effective prosecution of the war. Loan rates have been raised accordingly on cotton, tobacco, rice, and on marketing-quota peanuts, but not on corn and wheat. The rates provided under the new legislation are to be maintained until the expiration of a two-year period after the war.

Under an Executive order that became effective Oct. 5, price control extends now to about 90 per cent of

our food. For various reasons it still does not cover several important seasonal products, such as most fresh fruits and vegetables, nor does it extend to peanuts and fresh fish. New products covered include butter, cheese, evaporated and condensed milk, poultry and eggs, mutton, flour and corn meal, dry edible beans, dry onions, and fresh and canned citrus fruits and juices.

### FARMERS' EARNINGS

For their greater and more diversified production farmers received higher prices and earned higher net incomes. Between November 1941 and September 1942 the index of prices received by farmers advanced from 135 to 163. The index of prices paid by farmers advanced also though less rapidly. In other words, farm prices continued to gain on non-farm prices. In the first nine months of 1942 the ratio of prices received to prices paid by farmers, plus interest and taxes, averaged slightly over 100, i.e., close to the parity goal (as an average for all farm products). Because farm marketings were of record size, farmers had above-parity income as well as price parity.

Indeed, farm income in 1942 was well above the parity income level. It substantially exceeded the income from agriculture in 1941, which, with government payments included, was about \$8,964,000,000, as compared with only \$6,313,000,000 in 1939. The income per person on farms, with government payments included, increased from \$171 in 1939 to \$254 in 1941, or from 94 to 112 per cent of parity on a per capita basis. For 1942 the comparable figures are likely to be about \$368 and 136 per cent of parity income. Losses which farmers suffered in the depression years have not as yet, however, been entirely wiped out.

Estimates for 1942 indicate that cash farm income, with government payments included, will exceed \$15,000,000,000; this is considerably more than the previous high level reached in 1919. The net income of farm operators, or the amount available to



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persons on farms for use in family living and for savings, is estimated at nearly \$10,000,000,000, about \$1,000,000,000 greater than the amount available in 1919. Broadly, the position of most farmers improved more than that of some and less than that of other urban groups.

Prices of farm products advanced sharply at the year end and reached the highest level since October 1920. At 178 per cent of the August 1909-July 1914 average, the mid-December index of local market prices of agricultural commodities was 9 points above a month earlier and 35 points above December 1941. Prices paid by farmers, interest, and taxes stood at 155. As a result, the ratio of prices received to the combined index of per unit farm costs jumped to 115, 6 points higher in mid-December than a month earlier and 15 points above a year ago. For the entire year 1942, the average index of prices received was 157; the index of prices paid, interest, and taxes was 152; the ratio between them was 103. The rise in farm product prices was general.

Prices received by farmers averaged 35 points higher than in the previous year. Grains, at 119 per cent of August 1909-July 1914 levels, were the lowest priced group of farm products. Fruit prices averaged 126. Truck crops at 199, and meat animals at 190 were well above the index of prices paid, interest and taxes. Miscellaneous products (held up by tobacco) averaged 159. Cotton and cottonseed prices were 155, with above-parity prices of cottonseed offsetting relatively lower prices of lint during most months. Dairy products prices, at 152, averaged the same as the index of prices paid by farmers during 1942. The poultry products index averaged 151. Prices paid by farmers for all commodities averaged as high as the combined index of prices paid, interest, and taxes for the first time since 1919. In 1941 the index of prices paid averaged 131 per cent of 1910-14; the combined index, 134. This year both indexes averaged 152. Prices of commodities bought by farmers rose substantially during the first quarter of

1942; there was little change in interest and tax rates per acre.

### LEND-LEASE AND DISTRIBUTION

Activities of the Agricultural Marketing Administration have contributed to the war effort on all fronts where allied military and naval forces have been in action, as well as at home and among the civilian population of the United Nations. Domestic distribution has helped low-income persons who are eligible for public assistance in the United States and Puerto Rico. The plan supplies only a minimum of food requirements, yet it promotes morale and plays a part in preventing disease, malnutrition, and lowering of productive capacity.

These AMA programs support farm prices and consequently aid farmers to meet their war production goals. They also promote orderly marketing of farm products in line with the best interests of consumers and of the nation. They synchronize production with distribution. Lend-lease purchase of food; the food-stamp, school-lunch, and direct-distribution programs; the school-milk and the cotton programs; and the Victory Food Special programs, along with marketing services and market regulatory work, are complementary in their effects and speed farm products to their uses.

The United Kingdom and other parts of the British Empire have so far received the bulk of the lend-lease commodities purchased by AMA during the year. In recent months procurements for other nations have been important also. Lend-lease foodstuffs, such as Army biscuits, canned salmon, canned meat, dried eggs, flour, dried fruits, and orange juice, are appearing on major battle fronts as weapons in the defense of the United Nations. Food shipments have gone to Russia and China for military and other uses; also to Polish refugees in Russia. These shipments have included concentrated soup, milk products, meats, fats, and oils, beans, cocoa, and ascor-

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bic acid (pure Vitamin C). In co-operation with the International and American Red Cross, AMA is shipping similar items to supplement the meager diet of Yugoslav prisoners in German and Italian concentration camps. The Soviet military and scientific outposts in northern Siberia are receiving quantities of lend-lease foodstuffs.

Many of our island outposts have benefited similarly. Under the Territorial Emergency Program the AMA has purchased more than 100,000 tons of agricultural products for shipment to Hawaii. Puerto Rico, an important base for our anti-submarine patrols, will soon receive rice, canned meat, flour, and fish products for its civilian population. AMA has cooperated with the State Department in providing emergency food reserves on such Caribbean Islands as Trinidad and Antigua where United States naval bases are being constructed.

Probably the coming fiscal year will witness important changes in commodity purchases for the United Nations. Loss of allied territory, the reoccupation of lost territories, occupation of enemy possessions, changes in the shipping situation, and new allies will create fresh problems which, however, should not present unsurmountable obstacles.

### WARTIME FOREIGN TRADE

Prospects in the first months of the war were for a drastic curtailment of our agricultural exports for the duration. Lend-lease exports entirely changed the situation. Other factors, however, have been important. Among them are the dependence of other countries upon the United States for products no longer available elsewhere, the supplying of troops of the United Nations in many parts of the world, and the demand created for our products in certain areas that have increased their exports to us.

Farm exports from the United States for the year ended June 1942 exceeded \$1,000,000,000 in value. They were 40 per cent higher in value than the average for the 10 preced-

ing years. In the first year of lend-lease operations the Agricultural Marketing Administration expended approximately \$800,000,000 for supplies destined mainly for shipment to the United Nations. The index of export quantity for the fiscal year 1942 showed a decline of approximately 20 per cent.

This apparent contradiction may be explained in part by rising prices, in part by the decline of non-food exports, and in part by the additional emphasis placed on concentrated foods. Cotton, for example, once constituted almost half the total value of agricultural exports. In fiscal 1942 it amounted to only 9 per cent. Its preponderant effect on the total exports is evident. All other farm exports together increased greatly over the average for the preceding 10 years, the rise in value being equal to about 140 per cent and in quantity to 64 per cent.

The greatest loss to United States farm exports since that caused by the domination of Europe by the Axis has resulted from Japanese occupation of much of the Far East. In 1941 nearly \$64,000,000 worth of United States agricultural exports, or 10 per cent of the total, went to Japan, China, Hongkong, and Kwantung, Philippine Islands, Burma, Netherlands Indies, French Indo-China, British Malaya, and Thailand. These markets may now be considered closed. In the first three months of 1942 less than \$500,000 worth of farm commodities went to the Far East from the United States. Even exports to Australia and New Zealand in 1942 were at a much lower rate than in 1941.

Changes in imports of farm products similar to those grown in the United States have been significant, though less marked than changes in the exports. Three factors have principally dominated the import situation: (1) increased need for certain industrial raw materials; (2) increased consumer purchasing power, which has increased the demand for various food products and other consumer goods; and (3) our growing

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dependence on imports from Latin America. The shipping shortage has modified all of these factors.

Our farm imports in fiscal 1942 were about \$790,000,000 in value; they rose sharply during the year to a point nearly 50 per cent above the average for the preceding 10 years. Prices played an important part in the advance, though less so than in the exports. In quantity the imports rose less than 30 per cent. Wool accounted for half of the rise in value; wool imports were so large, that for the first time they surpassed imports of sugar. Hides, molasses, casein, and cotton linters entered the country in unusually large amounts; these commodities are extremely important in the prosecution of the war.

All imports from the Far East reflected the impacts of the war. Before Pearl Harbor most of the commodities except silk which originated there were entering this country at above pre-war levels. Thereafter the volume steadily declined. Principally involved were rubber, manila fiber, copra, coconut oil, palm oil, and certain drugs and spices. In their place imports of certain products such as henequen and sisal and castor beans from Latin American countries increased.

On June 27, 1942, a Memorandum of Agreement on wheat became effective among the five nations—Argentina, Australia, Canada, the United Kingdom, and the United States. This international commodity agreement, the first to be negotiated with reference to the war and post-war period, has three main objectives, namely: (1) to minimize the accumulation of excessive stocks of wheat. (The Governments of Argentina, Australia, Canada, and the United States agree to "adopt or maintain positive measures to control production."); (2) to establish a pool of wheat for inter-governmental relief purposes; and (3) to stabilize the wheat-export market in the immediate post-war period.

### FARM LABOR SUPPLY

Farmers in 1942 had trouble with

labor shortages in certain areas. These shortages undoubtedly kept both the quantity and quality of the farm production from being as high as it might otherwise have been. They presented difficult problems in labor distribution. It seemed that by 1943 the situation would be critical. Farmers had to share the labor supply with the military services and also with the munitions industry in such a way as to produce the best total war result. The Department of Agriculture, in cooperation with the War Manpower Commission, Selective Service System, and United States Employment Service, took steps to economize the labor supply, place it where it would do the most good, and help farmers use it advantageously.

Loss of many skilled year-round farm hands compelled farmers to reduce their standards for hired help. They had special difficulty, particularly in the Northeast, in getting skilled dairy hands. Some dairy farmers even had to reduce their herds. The number of persons employed in agriculture was maintained, but only through increased employment of women, and relatively inexperienced workers. The total number of workers on farms July 1, 1942, was 12,009,000 as compared with 11,917,000 a year earlier.

The Government agreed with Canada to permit the flow of harvest machinery and crews across the border between Minnesota, North Dakota, Montana, and Canada's prairie provinces. The agreement also facilitated the movement of potato pickers between Maine and New Brunswick. Through the FSA and the United States Employment Service, the Department recruited farm labor from Mexico for some areas under an arrangement with Mexico which established conditions for the transportation of the Mexican workers into the United States, for the maintenance of their wage levels and working conditions, and for their eventual return.

Through the United States Employment Service, agriculture got a better distribution and utilization of



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the farm labor supply. The Service promoted a more orderly situation from which both farmers and farm workers benefited. Shortages of labor in some areas had an offset in surpluses elsewhere. Placement through the Employment Service helped to level the inequalities and bring workers and jobs together. Lack of transportation facilities, particularly of gasoline and of tires, was a difficulty. In some areas the railroads granted lower train rates for farm migrants; also, farmers obtained Federal aid in transporting workers. They paid the transportation costs themselves for the first 200 miles; the Farm Security Administration, to the extent that the funds available allowed, paid for the additional mileage. Farmers who received this assistance agreed to provide fair wages and living conditions.

Partly the farm labor shortage reflected disparities between industrial and farm wage rates. Farm rates advanced, but not to the urban level. It seemed likely, as the differential persisted, that some public wage regulation would be necessary.

### FARM MACHINERY

Farmers entered the world conflict reasonably well provided with farm machinery. In 1941 the production of farm machinery for sale in the United States was nearly one-fourth greater than in the previous year, which in turn had been an active year for farm-machinery sales. In fact, sales of farm machinery during 1940 were equal to what they were in the pre-depression year 1929. Farmers purchased farm machinery liberally in the five years that preceded 1940; their average annual purchases in this period were only 6 per cent below the 1940 level. Moreover, the supply of machinery on farms when the Japanese made their attack on Pearl Harbor was in good condition and for the most part of relatively recent models. It was inevitable, however, that a shortage should develop from the diversion of metals from farm-machinery making to munitions production. The shortage has reached the point now where it necessitates a

full-scale rationing program for the 1943 crop year. New production of farm machinery during 1943 is to be at 20 per cent of the average production of 1940 and 1941, with manufacture of repair parts at 130 per cent of the average production of those two years.

### FATS AND OILS

Early in 1942, following the Japanese attack on Pearl Harbor, it was evident that the United States faced a possible deficiency in its supplies of fats and oils. About 50 per cent of our fats imports was cut off as a result of Japanese occupation of Far Eastern areas. Moreover, the requirements of our allies for fats and oils to be exported under lend-lease were mounting. Accordingly, the production goals for oil crops established in the fall of 1941 were revised sharply upward. The national peanut goal was set at 5,000,000 harvested acres, or about  $2\frac{1}{2}$  times the harvested acreage in 1941. For soybeans the goal for 1942 was set at 9,000,000 harvested acres, 54 per cent above the acreage harvested for beans in 1941. The revised national goal for flaxseed called for 4,500,000 seeded acres, a 34 per cent increase over the 1941 acreage.

According to late-fall indications, approximately 4,200,000 acres of peanuts were picked and threshed this year, more than 10,000,000 acres of soybeans harvested for beans, and 4,700,000 acres of flax harvested for flaxseed. While the peanut goal probably was not attained, the soybean goal was exceeded, and that for flaxseed just about attained; moreover, the production of cottonseed was larger than in 1941. Farmers planted over 7,500 acres of castorbeans for seed to be used in planting a large commercial acreage in 1943 if necessary. Meat production, expected to be the largest on record in 1942-43, gave an increased supply of lard, tallow, and greases. Full use of all the production aids available, however, may still not avert the necessity for limiting domestic consumption of fats and oils in some way.



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### STORAGE FACILITIES

Production of war goods, both agricultural and industrial, placed tremendous pressure on our warehouse and storage facilities. Warehouse space at seaports and at interior storage depots was in use to its capacity. Requirements were heavy for storage space in producing areas for numerous farm products, especially grains, oilseeds, processed dairy products, canned goods, and tobacco. The shortage of shipping, the necessity for extending our supply lines to many distant points, the hearty response of farmers to the Food for Victory program, and favorable weather for crops intensified the problem.

The Department of Agriculture worked with farmers and the grain trade to build as much new storage space as the shortage of critical materials allowed and to make as much room as possible for the new crops. The Office for Agricultural War Relations presented the problem to the War Production Board which granted priorities for materials to build terminal and subterminal extensions for some 15,000,000 bushels. In addition the War Production Board approved another 10,000,000 bushels new capacity for country elevator annexes and similar commercial storage. It freed sufficient lumber and nails in surplus grain producing areas to enable farmers to expand their storage facilities and authorized the building of prefabricated temporary bins for sale to farmers and for use by the Commodity Credit Corporation.

### SUGAR CONTROL

Sugar control had to be improvised for the protection of producers and consumers when this country entered the First World War in 1917; but when the Second World War began the control of the sugar industry had already been in effect six years. It permitted rapid wartime action with the double objective of preventing runaway sugar prices and maintaining income for most domestic sugar

producers at income-parity levels or better. It checked inflation in sugar prices and consequently provided safeguards against the risk of severe inventory losses to processors and large-scale industrial users of sugar in the post-war period.

In line with its policy of stimulating Food for Freedom production, the Department of Agriculture in the fall of 1941 made a survey to learn what should be done to encourage domestic sugar production. The survey showed that the continuance beyond Dec. 31, 1941, of the protection growers had enjoyed since 1934 through the sugar system was one of the steps necessary; also, that larger payments to producers would be a second requirement.

In accordance with emergency provisions of the Sugar Act and on the recommendation of the Department, the President suspended the sugar-quota system under a proclamation issued April 13, 1942. The purpose was to make it possible to import sugar into the United States from areas not included, or inadequately included, in the sugar-quota provisions of the sugar legislation. In the spring of 1942 the Office of Price Administration was authorized to ration sugar to individual consumers.

The Department joined the State Department and the Office of Production Management in recommending to the Reconstruction Finance Corporation the purchase of virtually the entire 1942 Cuban sugar crop. One purpose of this purchase operation was to prevent speculators from bidding up the price to the detriment of consumers in the United States and in the United Nations. Another was to promote economic stabilization in the neighbor republic, which depends greatly on sugar.

After difficult negotiations, the Defense Supplies Corporation concluded an agreement with the Cuban Government for the purchase of nearly all the 1942 Cuban sugar crop at \$2.65 per 100 pounds, raw value, f.o.b. Cuba. The British bought the bulk of the 1942 Dominican and Haitian crops.

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### ADMINISTRATION OF FOOD PRODUCTION

After Pearl Harbor, the Department moved quickly toward a full war basis. On Dec. 13, 1941 the Secretary combined 17 of the Department agencies into eight groups, each under an administrator. He asked these administrators, along with staff officers of OAWR, BAE, and the Extension Service, to constitute the Department's War Board. Confirmed later by Presidential order, this reorganization streamlined the Department, brought related tasks together, simplified top administration work, and gave the whole institution a stronger sense of its total job. The Department's War Board established a program of frequent meetings and developed programs and instructions for the State War Boards. In February the Secretary announced a pooling of the Department's facilities with those of OPA in the fight against inflation.

In inter-agency war coordination the creation on June 5, 1942 of the Foods Requirements Committee, with the Secretary of Agriculture as chairman, was a vitally important step. This committee had jurisdiction under the general supervision of the chairman of the War Production Board over the whole broad problem of food allocation. In the light of war needs it considered what should be produced, where it should go, and how it should be handled. It included representatives of the State, War, and Navy Departments; Board of Economic Warfare; Office of Lend-Lease Administration; and Office of Price Administration, as well as the War Production Board and the Department of Agriculture. The job of servicing the Foods Requirements

Committee and of acting as a channel to the Committee by all the agencies represented on it was a responsibility of the Office for Agricultural War Relations.

Collaboration between the food authorities of the United States and of the United Kingdom has been the rule since the beginning of the lend-lease program. President Roosevelt and Prime Minister Churchill in June 1942 announced the formation of the Combined Food Board "to coordinate further the prosecution of the war effort by obtaining a planned and expeditious utilization of the food resources of the United Nations." They appointed the Secretary of Agriculture of the United States and the Head of the British Food Mission members of the Board.

By executive order on Dec. 5 the President authorized and directed the Secretary of Agriculture to assume full responsibility for and control over the nation's food program. Specifically, the order required the Secretary (1) to ascertain and determine the direct and indirect military, other governmental, civilian, and foreign requirements for food, both for human and animal consumption and for industrial uses; (2) to formulate and carry out a program designed to furnish a supply of food adequate to meet such requirements, including the allocation of the nation's agricultural resources for this purpose; (3) to assign food priorities and make allocations of food for human and animal consumption for direct and indirect military, other governmental, civilian, and foreign needs; (4) to take all appropriate steps to insure the efficient and proper distribution of the available food supply; and (5) to purchase and procure food for Federal agencies.

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### COTTON AND GRAIN CROPS

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#### COTTON PRODUCTION

Production of cotton in 1942 was featured by a new high record yield per acre. Acreage differed little from the preceding year, but was less than three-fifths of the pre-AAA average. The crop of 12,982,000 bales of 500 pounds gross weight was 20 per cent larger than the 1941 crop but was 1 per cent below the average of recent years (1931-40).

While cotton prices were sufficiently favorable at planting time to stimulate increases in acreage, there was no change in acreage allotments under the AAA Conservation Program, and prices of competing crops also were favorable. The acreage of cotton planted (in cultivation on July 1, 1942) was above 1941 in Missouri, Virginia, North Carolina, Tennessee, Oklahoma, Texas, New Mexico, Arizona, and California, and below in the other states. In Georgia, Alabama, and Florida, where there was a material increase in the acreage of peanuts, the decrease in cotton acreage was largest. The acreage of American-Egyptian cotton in Arizona, New Mexico, and Texas was increased materially.

The 1942 crop was grown under relatively favorable conditions. Temperatures were above normal in July and boll weevils were held in check. In most areas, rainfall was ample but not too abundant and the crop developed rapidly and satisfactorily. These optimum conditions continued during August and a record yield was assured on Sept. 1. Prospects decreased during the following months. Heavy precipitation and low temperatures during September delayed maturity, and in Oklahoma and parts of Texas an infestation of leaf worm reduced the outturn. There was loss in harvesting on account of rain damage during the extended harvesting period, with some loss from scarcity of labor.

Considerable cotton still remained to be picked on Dec. 1 in Texas and the Western States.

Texas as usual ranked first in the production of cotton, followed in order by Mississippi, Arkansas, Alabama, and Georgia. Production was much above average in Missouri, North Carolina, Tennessee, and California. The decline in cotton production from average was mostly in the Southeast—South Carolina to Alabama—and in the southwestern states of Louisiana, Oklahoma, and Texas.

#### COTTON YIELDS

The 1942 yield per acre of 275.1 pounds is an all-time record for the United States. In 1941 the yield was 231.9 pounds, and the average for the preceding 10 years (1931-40) was 215 pounds. The level of yields during recent years has been materially above that of earlier years, partly because of favorable seasons and relatively low weevil damage and partly as the result of the use of better lands, increased fertilization, and more intensive cultivation. This shift toward better care of the cotton crop accompanied the material reduction in acreage under the AAA Conservation Program allotments. The record United States yield per acre results from relatively high yields in a great many states rather than from record yields in just a few states. The outturn was particularly high in North Carolina, Alabama, Tennessee, Mississippi, and Arkansas.

#### COTTON ACREAGE

The acreage of cotton in cultivation on July 1, 1942 was 23,310,000 acres which was an increase of .8 of 1 per cent above 1941 but 25.1 per cent less than average. Plantings, as in 1941, were well below the AAA Conservation Program allotments. Some farmers whose plantings were in ex-

# COTTON AND GRAIN CROPS

## COTTON ACREAGE, YIELD, AND PRODUCTION

State	Acreage in Cultivation on July 1 (1,000 Acres)			Yield per Harvested Acre (Pounds)			Production 1,000 Bales (500 lb. gross wt.)		
	Average 1931-40	1941	1942	Average 1931-40	1941	1942	Average 1931-40	1941	1942
Missouri.....	403	419	426	388	549	485	315	476	425
Virginia.....	56	36	42	272	382	386	31	28	33
N. Carolina....	1,026	812	865	304	333	406	626	552	721
S. Carolina....	1,482	1,235	1,169	278	166	293	820	406	705
Georgia.....	2,403	1,866	1,742	224	165	240	1,074	624	860
Florida.....	98	63	59	143	135	147	28	17	17
Tennessee.....	876	690	732	275	422	416	478	598	625
Alabama.....	2,516	1,791	1,726	215	217	261	1,076	790	925
Louisiana.....	3,139	2,458	2,446	254	288	396	1,564	1,424	1,975
Mississippi....	2,648	2,086	2,049	259	342	361	1,344	1,430	1,495
Arkansas.....	1,426	1,071	1,026	239	148	286	677	313	598
Oklahoma.....	2,645	1,731	1,877	147	208	192	745	718	720
Texas.....	11,760	8,119	8,358	160	165	187	3,686	2,652	3,113
New Mexico....	114	122	137	460	433	444	103	106	122
Arizona.....	188	255	272	408	346	343	163	181	194
California.....	303	356	361	563	551	583	361	404	432
Ill., Kan., Ky.	24	20	23	342	598	464	17	25	22
United States..	31,106	23,130	23,310	215.0	231.9	275.1	13,109	10,744	12,982

cess of allotments removed the excess before harvest. The abandonment in 1942 was 2.8 per cent, somewhat in excess of the usual abandonment from natural causes. In 1942, 22,660,000 acres were harvested which was 1.9 per cent above 1941. Included in the state totals shown in the accompanying table are 88,000 bales of American-Egyptian cotton produced on 195,000 acres, mostly in Arizona, and 900 bales of Sea Island cotton produced on 6,000 acres, mostly in Georgia and Florida. The 1941 production of American-Egyptian cotton was 60,000 bales on 136,000 acres, and production of Sea Island cotton amounted to 2,800 bales on 30,000 acres.

### VALUE OF PRODUCTION

The price of cotton lint continued on a level much higher than in recent years. Cottonseed increased in importance as a source of vegetable oils because of war demands and the diminished imports of competing oils, and its price also remained high. Based on production and prices paid to producers to Dec. 1, the total value of the 1942 cotton lint and cotton-seed production was \$1,487,-779,000, compared with \$1,142,624,000 in 1941. Of the 1942 value, \$1,223,-442,000 relates to the lint and

\$264,337,000 to the seed. Although practically all of the lint is sold, a portion of the cottonseed is retained on the farm for seed, feed, and fertilizer. The preliminary price to Dec. 1 of cotton lint for the 1942 crop was 18.80 cents per pound, compared with the season-average price of 17.03 cents per pound for the 1941 crop. Similar prices for cottonseed were \$45.60 per ton in 1942 and \$47.65 for the 1941 crop. Included in the value of the cotton lint was the value of the cotton which was placed on loan and was unredeemed at the end of the year. For the 1941 crop, 2,220,000 bales were placed on loan, of which 897,000 bales had not been redeemed on August 1, 1942. Loans were made on 1,618,000 bales of the 1942 cotton crop up to Dec. 26. The values do not include AAA Conservation Program payments, nor parity price payments.

### GRAIN CROPS

Total production of all grains in 1942 exceeded the previous record production (1941) by 15 per cent. Tonnage was 157,000,000 as compared with 137,000,000 tons in 1941. The corn, barley, and rice crops were the largest ever produced—corn by 100,-000,000 bushels and barley by 60,000,-000 bushels. Wheat production was



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## GRAIN PRODUCTION—UNITED STATES

Crop	Acreage Planted (1,000 Acres)			Yield per Harvested Acre (Bushels)			Production (1,000 Bushels)		
	Average 1930-39	1941	1942	Average 1930-39	1941	1942	Average 1930-39	1941	1942
Wheat:									
Winter.....	48,231	45,671	38,339	14.4	17.0	19.7	570,001	670,709	703,253
Durum.....	3,400	2,598	2,155	9.3	16.5	21.2	27,297	41,653	44,660
Other Spring	18,352	14,063	12,039	10.6	16.9	20.0	148,277	230,765	233,414
All Wheat...	69,983	62,332	52,533	13.3	16.9	19.8	745,575	943,127	981,327
Rye.....	16,074	6,185	6,465	11.1	12.7	14.9	37,870	45,364	57,341
Rice.....	945	1,263	1,505	48.4	42.3	44.9	45,712	51,323	66,363
Buckwheat....	490	355	405	16.1	17.9	17.7	7,365	6,038	6,687
Corn, All.....	101,081	87,631	91,011	23.5	31.1	35.5	2,307,452	2,677,517	3,175,154
Oats.....	41,834	41,582	42,656	27.4	31.1	35.9	1,016,061	1,180,663	1,358,730
Barley.....	13,454	15,762	19,433	20.7	25.5	25.4	226,460	362,082	426,150
All Sorghums for Grain....	24,083	25,982	25,896	12.6	18.7	18.2	52,747	111,784	107,245

<sup>1</sup> Short-time average.

<sup>2</sup> Harvested acreage.

the second largest; rye the largest since 1924; and oats the largest since 1925. Sorghums produced less than in 1941 but double the average quantity. Only buckwheat fell below average. The total production of grain crops used primarily for food—wheat, rye, buckwheat, and rice—was 1,111,718,000 bushels. This was 6 per cent above 1941 and 33 per cent above the 10-year average, 1930-39. Details by crops are given in the following table.

### WHEAT

The 1942 wheat crop of 981,327,000 bushels is the largest since 1915 and second largest wheat crop ever produced in the United States. The crop was grown on a moderate acreage but it had the advantage of unusually favorable climatic conditions which extended from winter wheat planting time in the fall of 1941 until the close of the 1942 harvest. Both winter and spring wheat benefited from ample fall rains, from moderate but sufficient rains in the spring and summer, and moderate temperatures at ripening time. This was particularly true in the Great Plains states where hard wheat production is centered. Exceptions to the optimum conditions were the relatively wet harvest season in the North Central soft red winter wheat states from Missouri eastward through Pennsylvania, and the relatively heavy greenbug damage in

Oklahoma and Texas. The crop was much above expected domestic consumption; therefore, there will be a further material increase in the carry-over of wheat into the new season. Domestic consumption in 1942-43 is expected to be about 800,000,000 bushels which is much above the ordinary consumption of 670,000,000 bushels. Included in the domestic consumption in 1943 will be a greatly increased quantity fed to livestock and some utilization in the manufacture of alcohol.

The harvested acreage of 49,464,000 acres was 11 per cent less than the 55,642,000 acres harvested in 1941 in which year an average acreage was harvested. The total acreage sown, including some duplication of spring wheat sown on abandoned winter wheat acreage and some volunteer wheat which was harvested, was 52,533,000 acres, a reduction of 16 per cent from the 62,332,000 acres sown for harvest in 1941. The acreage seeded was below the AAA Conservation Program allotment which totaled 55,000,000 acres in 1942 against 62,000,000 acres in 1941. Although only 70 to 85 per cent of the wheat crop is sold off farms, the evaluation of production at the sale price gives a measure of the importance of this crop to the agricultural industry. Computed at the preliminary season average price of 105.7 cents per bushel, the

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1942 crop would be valued at \$1,037,-687,000. The season-average price for the 1941 crop was 94.5 cents and the value \$890,832,000. The prices include allowances for loan wheat at average loan values. At the end of December, over 380,000,000 bushels of the 1942 crop were under loan. In all, 366,000,-000 bushels were placed under loan from the 1941 crop, of which about 54,000,000 bushels had been redeemed at the end of June, 1942.

### WINTER WHEAT

Winter wheat was seeded on 38,-339,000 acres in the fall of 1941. There was ample moisture at seeding time to bring the crop up to a good stand. In fact, there was too much rain to permit the planting of the full intended acreage in some North Central and Southwestern states. Because of the heavy fall rains, the large acreage of volunteer wheat germinated in the Southwest where considerable shattered and lodged wheat went down at harvest time. Considerable acreage of this volunteer wheat was harvested and the acreage and production are included in the estimates. The abandonment from weather damage was very low and the spring was favorable for maturing the crop. While there was greenbug damage in parts of Oklahoma, Texas, and Kansas, a large crop of hard winter wheat was harvested in the Great Plains area. The season was unfavorable in Missouri and Illinois with heavy winter loss and low yields because of wet weather at harvest. There was a loss at harvest also in Indiana, Ohio, and Pennsylvania. Such adverse conditions were less prevalent than usual, however, and were outweighed by bumper crop conditions elsewhere. In spite of heavy straw and relatively high humidity, there was practically no damage from rust. A record yield of 19.7 bushels per acre was harvested and the production of 703,253,000 bushels was the third largest of record. The 1941 crop of 670,709,000 bushels was harvested from 39,485,-000 acres at a yield of 17 bushels per acre.

### SPRING WHEAT

The production of all spring wheat of 278,074,000 bushels was the largest since 1928. It was only slightly more than the crop of 272,418,000 bushels produced in 1941. In the principal spring wheat states, the spring opened with ample soil moisture and the crop benefited by moderate temperatures and timely rains. Durum wheat production of 44,660,000 bushels was harvested from 2,109,000 acres with a record yield of 21.2 bushels per acre. In 1941, the yield was 16.5 bushels and production was 41,653,000 bushels. Production of spring wheat other than durum was 233,414,000 bushels, somewhat larger than the 1941 crop but produced on a somewhat smaller acreage of 11,689,000. The yield of 20 bushels per acre was the highest ever produced. Abandonment was relatively low.

### RYE

A very large acreage of rye was seeded in the fall of 1941. Much of the rye sown is used as pasture and cover crops, but a total of 3,837,000 acres was harvested. As in the case of wheat, the growing season was favorable. A larger than usual portion of the planted acreage was harvested for grain. The yield per acre of 14.9 bushels was well above average. In all, 57,341,000 bushels were harvested for grain, a fourth more than in 1941 and a half more than the average. The preliminary season-average price of 53.9 cents per bushel was the same as the final season price for the 1941 crop. Applied to the production, the value of the 1942 crop was \$30,911,000 compared with the 1941 value of \$24,-449,000.

### BUCKWHEAT

Production of buckwheat of 6,687,-000 bushels was below average but was 11 per cent above 1941. There was some increase in acreage because of higher prices at planting time and because of plantings on land too wet to plant the other intended crops. Some acreage was lost at harvest time because of wet fields and some of the crop was frozen before harvest. At

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the preliminary price of 79.1 cents per bushel, the buckwheat crop had a value of \$5,292,000. The season-average price of 67.4 cents for the 1941 crop gave a value of production of \$4,072,000.

### RICE

The greatly increased demand for rice by the armed services stimulated the planting of a record acreage of 1,505,000 acres in 1942, which was 22 per cent larger than in 1941 and 57 per cent above average. In Texas there was heavy loss of acreage because of two hurricanes in August, and yields were low because of unfavorable harvesting weather. In Louisiana and Arkansas, abandonment was light and yields were about average. Because of the greatly increased plantings, the Southern Rice Belt produced 54,771,000 bushels, compared with 42,908,000 bushels in 1941 and the average crop of 37,537,000 bushels. In California, there was a material expansion of acreage, some on low-yielding lands. The growing season was too cool, and yield was below average, but production was 11,592,000 bushels compared with the average of 8,176,000 bushels. The preliminary season-average price of 153.3 cents per bushel of rough rice applied to the United States production of 66,363,000 bushels gives a value of \$101,724,000. In 1941 the season-average price was 135.6 cents and the value of the crop, \$69,600,000.

### FEED GRAINS

The combined production in 1942 of the four feed grains—corn, oats, barley, and grain sorghums—(expressed in tons to allow for different weights per bushel) totaled 123,875,000 tons, 17 per cent more than the 105,681,000 tons produced in 1941. Average production of these grains for the 10 years 1930-39 was 87,778,000 tons, but this period includes the two severe drought years of 1934 and 1936. The 1942 production, however, was 24 per cent larger than the pre-drought (1923-32) average production of 99,506,000 tons. In that early period, corn acreage had not been lim-

ited by allotments under the AAA Conservation Program. The greater part of the production of these crops is fed on farms with only a small percentage moving into commercial channels. Farmers' incomes from these crops, therefore, come largely from the livestock to which these crops are fed. There were record stocks of these grains on hand at the beginning of the year which, when added to the tremendous 1942 production, give a very large supply of feed. These supplies are needed, however, because of the record numbers of cattle, hogs, sheep, and poultry on the farms and the heavy production of livestock products called forth by wartime requirements.

### CORN

The 1942 production of corn, as previously stated, was the largest ever produced. At 3,175,154,000 bushels, the crop was 100,000,000 bushels above the second largest crop which was produced in 1920. These estimates include the grain equivalent of corn used for silage, forage, hogging off, and pasturing, in addition to the corn husked and picked for grain. This bumper crop was harvested from only 89,484,000 acres which was 8,500,000 acres below the 10-year (1930-39) average acreage. Corn acreage allotments under the AAA were increased in the Commercial Corn area from 37,300,000 acres in 1941 to 41,339,000 acres in 1942. The acreage planted in the United States increased somewhat less than the increased acreage allotted. The final outturn of the 1942 corn crop was remarkable in view of the adverse conditions affecting the crop during the season.

In part of the area planting was delayed, and cultivation was hampered during June by continuous rains. Prospects in the South Central states were cut by an early June drought but this was relieved later in the month. In some sections damage was reported from blight, corn borers, floods, and lack of soil moisture. Freezing temperatures in late September stopped plant growth somewhat earlier than usual, and there

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was some soft corn in the Northern states. Factors which contributed to the very high yields were the lack of extremely high temperatures in July and August and optimum conditions for maturing in August and early September. Following the September freeze, there was a period without much rain during which the crop dried out well. In the Corn Belt, about 75 per cent of the corn acreage was in hybrids and this undoubtedly had much to do with the high final yield in the face of adversity. The final 1942 yield per harvested acre of 35.5 bushels exceeds the record 1906 yield of 31.7 bushels.

Production of corn for grain in 1942 was 2,884,744,000 bushels. In 1941, 2,435,307,000 bushels were harvested for grain. Corn silage was produced on 3,912,000 acres in 1942, compared with 4,091,000 acres in 1941, and 4,651,000 acres were harvested by livestock compared with 4,014,000 acres in the previous year.

A measure of the importance of corn in the agricultural industry may be gained by calculating the value of the entire production at the price received for the corn which is sold. On this basis, the value of production of the 1942 crop was \$2,715,070,000 at a preliminary price of 85.5 cents per bushel. In 1941 the season-average price was 75.1 cents per bushel, and the computed value was \$2,010,019,000. The price of corn includes loans made under the AAA Conservation Program to cooperators who seal part of their production in the cribs on their farms. Of the 1941 crop, 111,000,000 bushels were placed under loan, and of this, 86,000,000 bushels were still outstanding at the end of the corn crop year (Oct. 1, 1942). Up to Dec. 31, 1942, only a small quantity of the 1942 crop had been placed under loan, but many farmers undoubtedly will seal part of their crop during the early months of 1943.

### OATS

The production of 1,358,730,000 bushels of oats in 1942 was 15 per cent above the 1941 production and 34 per cent above average. Ample moisture

and moderate temperatures in most of the small grain states were favorable for high yields. The 1942 yield of 35.9 bushels per acre was the highest since 1915. It was much above 1941 largely because of exceptional yields in the heavy oats-producing region extending from eastern South Dakota to and including Michigan and northwestern Illinois. The 1942 harvested acreage was slightly less than in 1941 but 3 per cent above average. In every year considerable acreage of oats is harvested for hay, and some acreage is entirely abandoned. In 1942, 42,656,000 acres were planted, but only 37,899,000 acres were harvested for grain. At the preliminary price for the season of 44.4 cents per bushel, the oats crop was valued at \$602,800,000. The 1941 crop, at 41 cents per bushel, was valued at \$484,429,000.

### BARLEY

The expanded acreage of barley, coupled with the high yield per acre, produced a new record crop in 1942. The production of 426,150,000 bushels was nearly double the 1930-39 average production. In 1941, 362,082,000 bushels were produced which was a record at that time. The year 1942 was generally favorable for barley although yields in most states, except those along the northern border, were below yields in 1941. Barley has grown in favor in recent years since it frequently escapes drought because of its early maturity. It is also a substitute in some areas for wheat, and it is a substitute for corn as a feed crop. As a result, the planted acreage in 1942 was nearly 50 per cent above average. The value of the 1942 barley crop, at the preliminary season-average price of 59.4 cents per bushel, was \$253,137,000. The 1941 crop, computed at the season-average price of 52.8 cents, had a value of \$191,285,000.

### GRAIN SORGHUMS

The production of all sorghums for grain in 1942 was 107,245,000 bushels—about 4 per cent less than in 1941 but more than double the average. A new method of reporting sorghums



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was instituted in the December 1942 report of the Department of Agriculture. Formerly, grain sorghums were reported on the same basis as corn; that is, the grain equivalent production was reported for the entire acreage. In the new method, grain production of all sorghums is reported on the portion actually harvested for grain, and estimates of silage and forage sorghums are reported separately. Most of the grain sorghums are pro-

duced in the Great Plains states from Nebraska southward to Texas and New Mexico, and much of the crop is fed to livestock in the same locality where it is produced. The measure of its importance, however, is indicated by the value of production of \$66,405,000 in 1942 and \$61,413,000 in 1941. The preliminary season-average price in 1942 was 61.9 cents per bushel; in 1941, the season-average price was 54.9 cents per bushel.

### THE DAIRY INDUSTRY

BY RICHARD J. FOOTE

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#### WARTIME ADJUSTMENTS

Whereas 1941 was characterized chiefly by expansion of the dairy industry, 1942 was more concerned with adjustments to changing needs. At the beginning of the year, the attention of the industry was centered on obtaining the maximum output of American cheese, evaporated milk, and dried skim milk. With the shortage of shipping space which developed after Pearl Harbor, attention shifted from evaporated milk to dried whole and skim milk. Later in the year ample supplies of roller-dried skim milk were available but additional quantities of spray-dried skim milk were needed for reconstitution with water for military and lend-lease use. About the first of November shortages of butter began to appear, and on Nov. 20 the War Production Board "froze" 40 per cent of the nation's supply of cold storage butter to maintain adequate amounts to meet lend-lease and military requirements. Local shortages of fluid milk and cream also appeared in a number of areas, particularly those having large military camps or defense industries.

The imposition of price ceilings in 1942 injected a new factor into the dairy industry. Under the General Maximum Price Regulation issued in May, retail prices of fluid milk and cream and retail and wholesale prices

of ice cream were frozen at the highest level reached during March 1942. Effective Aug. 7, the Office of Price Administration extended price ceilings on fluid milk and cream in bottles or paper containers to the wholesale level. These prices also were frozen at the highest level reached during March. Effective Oct. 5, prices of all other dairy products were temporarily frozen at the highest levels reached during the period Sept. 28-Oct. 2. Later, permanent price ceilings for manufactured products were announced. Adjustments in ceiling prices for fluid milk and cream in several individual markets were issued during the year to prevent the development of serious local shortages of milk.

#### PRICES OF MANUFACTURED PRODUCTS

The seasonally adjusted index of wholesale prices of manufactured dairy products (1935-39 = 100) advanced rapidly during the first half of 1941 from 101 in January to 128 in June but declined during the second half of the year to 117 in December. In January 1942 the index advanced sharply to 123 and continued at about that level until March. In April the index jumped to 133 and then increased steadily until October when further increases were prevented by the imposition of price ceilings. The

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index in October was the highest for the month since 1928.

Changes in butter prices during 1942 accounted for most of the change in the index. During the first three months butter prices tended to sag but were prevented from declining much by fairly large purchases by the Dairy Products Marketing Association. On March 28 the Dairy Products Marketing Association increased its purchase price from 34 cents per pound for 92-score butter at Chicago to 36 cents. However, on April 4 the price increased to a half cent above the government support level and by the end of the month reached 39 cents. Butter prices then declined fairly steadily during May and early June and reached the support level of 36 cents again on June 6. During the latter part of June and most of July prices increased gradually, reaching 37.5 cents on July 21. On that date the Government increased its purchase price to 39 cents, but by the end of the month prices again advanced above the support level. Prices advanced rapidly during August and September reaching 45.75 cents on October 1, and continued at ceiling levels during the remainder of the year.

Prices of American cheese, evaporated milk, and dried skim milk were at the government support level during most of the year. Purchase prices declined somewhat during the late winter and spring of 1942 but by less than the usual seasonal amount. Prices being paid for butter and dried skim milk at the end of March were such as to divert some milk away from cheese factories and condenseries to creameries having drying facilities. When butter prices were raised on July 21, prices of other manufactured products were adjusted in such a way as to encourage a further increase in the production of dried skim milk and butter and to discourage the production of evaporated milk, which was far in excess of current needs. The differential between spray and roller-dried skim milk was increased to bring about a larger use of roller-process milk in

the domestic market. During late August and early September the effect of an increased demand and the seasonal decline in production was sufficient to cause both cheese and evaporated milk prices to rise above government support prices for the first time since the spring of 1941. From October to December prices of these products were at ceiling levels. Prices of fluid milk and cream were at ceiling levels during most of the year, declining by considerably less than the usual seasonal amount during the summer.

### INCREASE IN MILK PRODUCTION

Milk production on farms in 1942 totaled almost 120,000,000,000 pounds, compared with 115,500,000,000 pounds in 1941 and a 1936-40 average of 105,300,000,000 pounds. Although both total production and production per cow in 1942 were the largest on record, most of the increase in total production was due to a larger number of cows. In 1941 over half of the increase in production above a year earlier was due to an increased production per cow. The number of milk cows on farms during 1942 was about 25,200,000 head, 3 per cent more than in 1941. The number of dairy heifers one to two years old on hand is sufficient to bring about a further increase in 1943.

The shortage of labor and increased competition for feed and labor from hogs and beef cattle were the principal factors tending to prevent a larger increase in milk production in 1942. Early in November an order to help farmers keep skilled workers on essential livestock farms was issued by the War Manpower Commission. Several of the provisions of this order were designed to secure occupational deferments under the Selective Service Act for "necessary" livestock workers and producers.

### FARM INCOME FROM MILK

Farm income from the sale of dairy products has been increasing since 1939, and in 1942 was almost 25 per cent larger than in 1941. In every

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year since 1920, milk production was the largest single source of income. Income from milk in 1942 made up 15 per cent of the cash farm income from the sale of all crops and livestock combined. The \$2,300,000,000 income from milk in 1942 compares with \$2,200,000,000 from cattle and calves, \$2,100,000,000 from hogs, \$1,400,000,000 from cotton and cottonseed, and \$800,000,000 from wheat. Part of the income from the sale of cattle and calves was from dairy stock. In addition to the cash income received by farmers from the sale of dairy products, it is estimated that the milk, cream, and butter consumed on farms had a value of about \$500,000,000. Thus, the gross farm income from dairy products in 1942 was \$2,800,000,000.

### MILK UTILIZATION

The 122,500,000,000 pounds of milk produced in 1942 by cows on farms and in cities and villages were utilized and finally consumed in a variety of ways. About 3,000,000,000 pounds were used on farms for feeding calves, and about 12,000,000,000 pounds were consumed as milk and cream by people living on farms. An additional 7,500,000,000 pounds of milk were used for making farm butter. Thus, 22,500,000,000 pounds of milk, or about a sixth of the total production, were used on farms where produced and did not enter the channels of trade. The urban population consumed as fresh milk and cream in 1942 the equivalent of 38,500,000,000 pounds of milk. Hence, total consumption of fresh milk and cream required 50,500,000,000 pounds of milk, or roughly 40 per cent of the total production.

Creamery butter utilized 35,000,000,000 pounds of milk, and farm butter 7,500,000,000 pounds. Thus, almost 35 per cent of the total production of milk was utilized in butter. About 11,500,000,000 pounds of milk were utilized in cheese in 1942, 8,300,000,000 pounds in condensed and evaporated milk, and 5,000,000,000

pounds in ice cream, leaving 1,700,000,000 pounds for all other uses.

### CHEESE, EVAPORATED AND DRIED MILK PRODUCTION

Production of cheese in 1942 was 1,140,000,000 pounds, 20 per cent larger than in 1941, and of evaporated and condensed milk was 3,870,000,000 pounds, 8 per cent larger than in 1941. Ice cream production also increased, totaling 440,000,000 gallons, 15 per cent larger than a year earlier. Butter production, on the other hand, was 2,150,000,000 pounds, 5 per cent smaller than in 1941. Production of dried skim milk for human consumption was 580,000,000 pounds, 60 per cent larger than in the previous year, and of dried whole milk was 60,000,000 pounds, 35 per cent large than in 1941.

The shifts in production which were brought about by price adjustments due to changing lend-lease and military requirements and other factors can be illustrated by comparing changes in production relative to a year earlier in the first and last half of 1942. In the first half of 1942 percentage changes in the production of manufactured dairy products relative to a year earlier were as follows: creamery butter down 7 per cent, evaporated milk up 43 per cent, American cheese up 50 per cent, dried skim milk for human consumption up 59 per cent, and dried whole milk up 19 per cent. In the last half of 1942 the percentage changes from a year earlier in production were about as follows: creamery butter down 4 per cent, evaporated milk down 20 per cent, American cheese up 4 per cent, dried skim milk for human consumption up 60 per cent, and dried whole milk up 35 per cent. The decrease in production of evaporated milk from a year earlier was partly due to the very rapid increase (after making allowance for the usual seasonal change) in the production in the last half of 1941. Increasing consumption of fluid milk and cream in the fall of 1942 also appears to have been an important factor in limiting the production of manufactured dairy products.

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### INCREASE IN LEND-LEASE PURCHASES

From January through October 1942 the Department of Agriculture under the General Commodities Purchase Program bought the following quantities of dairy products: 242,000,000 pounds of American cheese, 24,000,000 pounds of canned process cheese, 1,117,000,000 pounds of evaporated milk, 5,000,000 pounds of condensed milk, 32,000,000 pounds of butter, 4,000,000 pounds of dried whole milk, 162,000,000 pounds of roller-dried skim milk, and 71,000,000 pounds of spray-dried skim milk. In comparison, total purchases in 1941 included 167,000,000 pounds of American cheese, 1,000,000 pounds of canned process cheese, 765,000,000 pounds of evaporated milk, 150,000 pounds of butter, 2,600,000 pounds of dried whole milk, and 23,000,000 pounds of roller and 15,000,000 pounds of spray-dried skim milk. Largest purchases of most of these products were made during the summer of 1942 and tended to taper off after July. Butter purchases, however, were relatively large from September to the end of the year.

To obtain sufficient spray-dried skim milk for military and lend-lease use, Conservation Order DA-1 was issued by the Secretary of Agriculture on Nov. 3. This order required every manufacturer to set aside at least 90 per cent of the spray-dried skim milk produced by him for delivery to designated government agencies. Spray-dried skim milk was urgently needed for lend-lease and military use for reconstitution for drinking purposes, whereas roller-dried skim milk, of which ample quantities were available, could be used for most civilian uses (mainly in cooking). In September spray-dried skim milk made up over 60 per cent of the total production of dried skim milk for human consumption. The butter-stocks freeze order, mentioned previously, also was designed to secure adequate supplies for military and lend-lease use.

### RECORD MILK CONSUMPTION

Despite the large quantity of dairy products used for military and lend-lease purposes and relatively high prices, consumption of all milk and dairy products in 1942 was the largest on record. Total civilian consumption was 111,000,000,000 pounds milk equivalent, compared with 107,000,000,000 pounds in 1941 and a 1936-40 average of 105,000,000,000 pounds. On a per capita basis the consumption was 852 pounds, also the largest on record.

The civilian per capita consumption of fluid milk and cream and of cheese in 1942 was 8 per cent larger than in 1941, of condensed and evaporated milk 2 per cent larger, and of ice cream 14 per cent larger. Consumption of each of these products was the largest on record. Butter consumption per capita was about the same as in 1941 but 2.5 per cent below the 5-year average.

### GOVERNMENT PROGRAMS IN DOMESTIC MARKET

In addition to purchases of dairy products under the lend-lease program, the Government gave substantial aid to dairymen both through the regulatory programs, including marketing agreements and orders, and by its surplus removal operations.

Federal marketing agreements and orders were in effect in 28 interstate milk markets during at least part of 1942. For the fiscal year ended June 30, 1942 producers sold a total of \$309,083,203 worth of milk under them. In addition, a nationwide program was carried out to improve marketing conditions and to stabilize prices for evaporated milk. Besides the Federal marketing agreements, 18 states had laws providing for various types of milk control.

During October and November a purchase and sales program in the New York Marketing Area was carried out by the Department of Agriculture. Under the program the Agricultural Marketing Administration offered to purchase Class I fluid milk



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from handlers for a certain price and to sell it back at a lower price. The purchase price was the minimum Class I producer price established by the Federal-State Marketing Order. The government resale price was recommended by the Office of Price Administration on the basis of evidence that handlers could not pay more under existing retail and wholesale price ceilings. A similar program was operated in the Duluth-Superior Marketing Area during November.

Under the Federal surplus removal program, about 6,000,000 pounds of butter, 35,000 pounds of cheese, 36,000,000 pounds of evaporated milk,

and 3,000,000 pounds of dried skim milk were used for direct distribution to persons on relief and for use in school lunch programs. An additional 25,000,000 pounds of butter were purchased under the Blue Stamp Plan. At the peak during the 1941-42 school year approximately 731,000 needy children in 74 cities and areas were able to buy milk at a penny a glass. At the peak of the 1941-42 fiscal year, 455,000 persons additional were able to obtain milk at prices ranging from four to six cents per quart in Boston, Chicago, St. Louis, and New Orleans, and free in New York City.

### INSECT PESTS AND PLANT QUARANTINES

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#### INTRODUCTORY

The Bureau of Entomology and Plant Quarantine has been very materially affected by the war. In the research work emphasis has been put on development of methods of controlling insects that immediately affect the personnel of the armed forces and the development of insecticides that may be used as substitutes for chemicals needed in war activities. Much work has been deferred to give way to the needs and problems arising out of the emergency, and the control and quarantine activities have been curtailed due to the transportation changes brought about by the conflict.

#### MOSQUITO INVESTIGATIONS

During the year military establishments, state and Federal health units, and other agencies were visited by the liaison officer designated by the Bureau of Entomology and Plant Quarantine for the purpose of discussing insect problems and demonstrating devices for their control. This work was concerned mainly with mosquitoes but also with cockroaches, bedbugs, fleas, flies, lice, chiggers,

ticks, and termites. Personnel of the Bureau's Florida laboratories gave much time to training sanitarians of the U. S. Public Health Service in the identification, habits, and control of mosquitoes. At the request of the Army Medical Corps a series of lectures on insects that affect troops was given to medical officers in training at the Army Medical Center, Washington, D. C.

#### CODLING MOTH

Micronized phenothiazine again gave control of the codling moth about equal to that obtained with lead arsenate. The regular phenothiazine, which has a greater particle size, gave much poorer results. A new formula for a tank-mix nicotine bentonite combination was developed. This formula includes a cheap, low-swelling Mississippi clay in place of Wyoming bentonite and mineral oil in place of soybean oil. It gave good control of the codling moth under experimental conditions and left little visible residue on the fruit.

#### PLUM CURCULIO

Soil treatments with dichloroethyl ether emulsion, in two applications to

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the ground under the spread of the peach trees, combined with jarring to catch overwintered adults, was as effective against the plum curculio as the regular lead arsenate spray program in Georgia.

### DRIED-FRUIT INSECTS

In tests to determine the effect of low temperature on dried-fruit insects, adults of the saw-toothed grain beetle and full-grown larvae of the Indian-meal moth succumbed when held at 32° F. for 22 and 23 days, but full-grown larvae of the raisin moth were not all killed after 125 days. Exposure to a temperature of 38° F. killed all the first two insects in 33 and 47 days, but 26 per cent of the raisin moth larvae survived an exposure of 130 days.

### JAPANESE BEETLE

The milky disease has given striking evidence of its value in controlling Japanese beetle grubs. In parts of Washington, D. C., where intensive colonization of the disease organisms has been made during the past two seasons, the grub populations dropped from 20 to 50 per square foot in August 1941 to nine or less early in June 1942. The adult beetle infestation in the treated areas was much reduced in 1942.

### PHONY PEACH AND PEACH MOSAIC DISEASE CONTROL AND ERADICATION

Control and eradication work was continued in cooperation with pest-control agencies of 18 Southern and Southwestern States. During the year 423 nurseries, containing more than 12,000,000 peach trees, and their environs were inspected, and all diseased trees eliminated to prevent spread of the diseases by infected nursery stock.

### SANITATION-SALVAGE LOGGING

Control of pine beetle infestations through selective logging of high-bark-risk trees continued to find favor with pine operators and on national forests in California and Oregon. This method, which aims at

the prevention of severe bark beetle losses, fits in well with the increased lumber production stimulated by war demands. High-risk trees selected for cutting yield a large percentage of the lower grades of lumber used by war industries.

### TERMITES AND DEFENSE HOUSING

The increase in construction of new houses for civilian defense workers and quarters for the armed forces has created a demand for more service in the application of methods for guarding against termites. The Army and Navy are making an effort to guard against and combat termites in buildings at the older and more permanent camps. Alterations in conventional types of construction, particularly at entrance platforms which are the most vulnerable parts of buildings, have been accepted and are being adopted by the region offices of the Federal Public Housing Authority.

### DUTCH ELM DISEASE

Control of the Dutch elm disease is resolving itself more and more into a problem of controlling the insect vectors. The results show that trees treated with sodium chlorate (10 grams per d.b.h. inch) plus sodium arsenite ( $\frac{1}{4}$  gram per d.b.h. inch) are effective in attracting bark beetles and killing them and their offspring. It has been also shown that sodium bisulfite can be used in place of sodium chlorate in equal dosages.

### WHITE PINE BLISTER RUST CONTROL

Decrease in emergency relief labor has reduced the amount of ribes eradication, and more attention has been given to reeradication to maintain rust control on those areas already under protection. The spread of white pine blister rust during 1941 was featured by a southward extension of the disease on ribes from central Virginia and West Virginia into northern Tennessee and North Carolina, and by the finding for the first time of large numbers of cankers on

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sugar pine in northern California and southern Oregon in localities where ribes had been previously found infested.

### EUROPEAN CORN BORER

The European corn borer in 1941 continued its destructive attacks and was estimated to have caused losses aggregating \$4,935,990 in 258 counties surveyed in 18 northeastern and east central States, where the total value of the crop was estimated as \$270,211,154. Considerable dispersion was recorded, principally in the upper Mississippi Basin westward and southward of territory previously known to be infested.

### CORN EARWORM

For control of the corn earworm the oil-pyrethrum method recently originated and announced by this Bureau is being adopted profitably and on a large scale by commercial growers of market sweet corn. This method is proving especially profitable in the Coachella Valley in California.

### GRASSHOPPERS AND MORMON CRICKETS

Grasshopper infestations became more restricted in area in 1941, especially in the eastern Great Plains. In the western half of this region, moderate to heavy populations matured and laid eggs that hatched in 1942. A bait in which the water was replaced by a much smaller volume of lubricating oil gave almost as good kills as that mixed with water. It was found that the concentration of sodium fluosilicate could be reduced from four pounds to three pounds per 100 pounds of bran without loss of final killing power. However, the higher concentration gave quicker kills. The Bureau cooperated in Mormon cricket control work in eight Western States. Infestation in the spring of 1942 involved 7,500,000 acres.

### HESSIAN FLY

A harvest-time survey of hessian fly conditions in winter wheat showed

heavy infestations in western Kentucky, southwestern Missouri, southeastern Nebraska, and the eastern half of Kansas, and moderate to heavy infestations in Illinois, Indiana, and eastern Pennsylvania. This condition became intensified in the spring and summer of 1942.

### INSECTS ATTACKING STORED GRAINS AND CEREALS

Transportation of heavily infested grain in box cars in the Central States during the moist summer of 1941 left a residue of insect infestation in most of such cars. Steel box cars thus infested and loaded with flour were effectively fumigated with methyl bromide at two pounds per 1,000 cubic feet of space for a period of 24 hours. Well-made paper sacks with carefully sealed top and bottom gave excellent protection from most insect pests. However, the susceptibility to breakage through handling constituted a serious defect. A fumigation mixture of chloropicrin, 1½ pounds, and carbon tetrachloride, one gallon, applied to 1,000 bushels of grain in steel bins gave perfect results but was objectionable because of its lachrymatory effect. Methyl bromide applied alone was found ineffective for fumigation of corn in steel bins, but by adding 10 per cent of this material to the standard ethylene dichloride-carbon tetrachloride mixture excellent results were obtained with a saving of four gallons of fumigant per 1,000 bushels of grain. In search for methods of protecting fumigated corn in steel bins from reinfestation, it was found that refined light mineral oil applied to the surface layer at the rate of two quarts per 1,000 bushels of grain largely prevented reinfestation by the Indian-meal moth and many other insects.

### CHINCH BUG

Owing to a warm, dry fall in 1941 the chinch bug again entered hibernation in threatening numbers in eastern Kansas and Nebraska and in southwestern Iowa. As war conditions had diverted the principal supplies of standard coal-tar creosote to

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other uses, it was feared that the supply for chinch bug barriers would be insufficient. Tests of a number of possible substitutes were therefore begun early in 1942.

### WHITE-FRINGED BEETLE

Cowpeas and soybeans were more seriously damaged by equal populations of white-fringed beetle larvae than peanuts or cotton. A rotation to such fine-rooted crops as Bermuda or carpet grass was very unfavorable for the development of these larvae. White-fringed beetles were found in several localities in the vicinity of known infestations in Alabama, Florida, Louisiana, and Mississippi. The quarantine was revised, effective May 9, 1942, to extend the regulated areas to include these localities and to release a small area no longer found infested. The known infested areas total less than 100,000 acres. All ports of entry from Charleston, S. C. to Corpus Christi, Tex. were scouted, co-operatively with the states, with negative results.

### A NEW WEEVIL ON LEGUMES

New work was undertaken in the State of Washington, in cooperation with state officials, to determine the distribution, habits, and control of the recently introduced European pea weevil (*Sitona lineatus* [L.]), which has been injuring peas, vetch, clover, and alfalfa. This weevil was first reported in North America in British Columbia in 1937 and was found for the first time in Washington in 1940.

### SUGAR BEET INSECTS

In preliminary field tests in southern Idaho for control of the beet leafhopper on sugar beets grown for sugar, encouraging results were obtained with dry and liquid lime-sulfur and micronized wettable sulfur in combination with water-soluble pyrethrum extract, and also with a pyrethrum-oil spray. Pyrethrum-oil treatments for the control of the beet leafhopper in beets grown for seed have increased the yield of viable seed produced in fields.

### TOBACCO INSECTS

Field tests showed that sprays containing cryolite or lead arsenate were effective against tobacco hornworms. Three to five applications were necessary for an early or midseason crop, and five or six for a late-season crop. A simple and efficient adjustable spray boom was developed for use with traction sprayers. Experiments in Virginia showed that the new type of tight hogshead that has been developed by the industry afforded only slight protection of stored tobacco against the cigarette beetle although it gave considerable protection against the tobacco moth. The use of paper liners in the old-type hogsheads gave a high degree of protection against both species. Experiments with tobacco in cold storage showed that temperatures of 60° to 65° F. prevented damage by the cigarette beetle and the tobacco moth.

### BOLL WEEVIL AND BOLLWORM

The damage caused by the boll weevil in 1941 was estimated at 15.4 per cent of the cotton crop, the most severe loss since 1927 and about double that of the previous two years. The damage was particularly heavy in the eastern and central sections of the Cotton Belt. Although large numbers of weevils entered hibernation in the fall of 1941, the survival in cages was very low following the winter. Mixtures of calcium arsenate and sulfur, 1:1 or 1:2, gave gains twice those given by calcium arsenate at Waco, and were about equally as effective as calcium arsenate at State College, Miss. and Florence, S. C.

A severe outbreak of bollworms occurred in all parts of the Cotton Belt. The arsenical and fluorine insecticides gave fair control of the small larvae before they entered the bolls or squares, but they did not kill larger larvae. The insecticide should be applied just as the eggs are hatching. Basic copper arsenate was more toxic to the larger worms than any material used in cage tests, and it was also effective against the boll weevil and the cotton flea hopper.



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The early-season pink bollworm population was light, averaging only one larva to 122,545 squares and blooms inspected, but late in the season pink bollworms were more abundant than in 1940. The cooperative control program undertaken by the United States and Mexico, by which planting of cotton is delayed and stalks and debris are burned in the fall, aided in reducing the pink bollworm population from an average of 212,000 to the acre in 1937 to 1,600 in 1941.

### BEE CULTURE

The sharp curtailment in the importation of agricultural seeds and beeswax brought about by the war and the necessity of obtaining larger quantities of both, coupled with the fact that sugar rationing has put a premium on honey production, has resulted in the issuance, by the War Production Board and other war agencies working in collaboration with the Department, of various orders designed to promote and encourage beekeeping. More than 50 agricultural crops are dependent on or benefited by pollinating insects, of which the honeybee is the most important. In the search for superior honey-producing strains of bees, 150 colonies, representing 15 strains, were tested. That breeding is a fruitful approach to increased honey production is evident from the wide variation in productivity of different strains, which ranged from 101 to 260 pounds per colony. It was possible to promote brood rearing independent of spring weather conditions by providing adequate food in the form of honey and cakes containing soybean flour and pollen. Soybean flour from which the oil had been extracted by the expeller process was far superior for brood rearing to that manufactured by the chemical extraction process.

### TICKS AFFECTING MAN

For control of the American dog tick, which serves as a vector for the eastern type of spotted fever, it was found that systematic dipping in der-

ris of all dogs in an area twice each week, repeated for four seasons and combined with meadow mouse control for a single season, was followed by an almost complete absence of this species of tick.

### SECRECTIONS OF INSECTS

Extract K, a healing agent discovered in the secretion of fly maggots, has been found to stimulate rapid healing in deep-seated purulent wounds, and also to promote growth of bone in osteomyelitis, a disease frequently following war injuries. The material is inexpensive and can be made synthetically.

### SCREWWORKS

Two outstanding developments in screwworm research included (1) the formulation of specifications for a process of manufacturing a turkey red oil which is superior in screwworm and fleeceworm smears to those previously obtained in commerce, and (2) the discovery that the moisture content is a vital factor in the efficiency of turkey red oil in benzene and diphenylamine mixtures. In many sections of Texas 90 per cent of the ranchmen are satisfied users of smear MS-62, which was developed in 1941 by the Bureau.

### CATTLE GRUB AND FLY SPRAYS

Experiments during the 1941-42 winter demonstrated that a pressure-sprayer treatment of cattle grubs with rotenone is effective. The method appears promising for treatment of range animals.

A pyrethrum extract containing 2 per cent of total pyrethrins in a light spray oil will give good control of stableflies and horn flies for 24 hours and inhibit feeding and engorgement of these flies for some time after the lethal effect is gone. Derris extracts gave better control than any other spray tested. When rotenone sprays containing 10 per cent of a derris extract were used, good control was obtained on the second day after spraying, and 80 per cent of the horn flies and some of the stableflies were killed on the third day. One new material

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tested, a thiocynoacetate, has shown excellent results.

### TICKS AFFECTING ANIMALS

Studies on the brown winter tick revealed that a wash composed of seven ounces of derris (5 per cent rotenone), 1½ ounces of neutral soap, and water to make a gallon was very effective, killing even the most resistant adults and providing considerable protection against reinfestation.

### STABLEFLY

In 1941 the program for control of the stablefly, or dog fly, in Florida used 143,975 gallons of diesel oil as a diluent for creosote oil in the treatment of grass deposits on the shores of inland bays and sounds. Salt water from the bays has since been found to be a satisfactory substitute for the diesel oil. Control methods have been developed for dog flies breeding in celery waste. The material is crushed and passed through a vat containing an aqueous solution of sodium arsenite. The reduction in volume of waste (65 to 75 per cent) resulted in a corresponding reduction in labor and hauling costs.

### INSECT IDENTIFICATION

Identifications totaled 57,551 for 18,809 lots, involving approximately 400,000 specimens. Of these identifications 68.5 per cent were for activities of the Bureau and other Federal agencies.

### FUMIGATION INVESTIGATIONS

Continued studies on treatments for nursery stock in the area regulated by the Japanese beetle quarantine resulted in the development and approval of two new methyl bromide fumigation schedules, the extension of all approved schedules to cover packaged perennials, and the approval of two schedules for the fumigation of produce in tight van bodies. Improvement in vacuum fumigation for the white-fringed beetles have made it possible to raise the limit of the diameter of soil balls from 11 to 16 inches, and have modified existing schedules so that treatments can be applied at

lower temperatures, and the risk of plant injury thus reduced. Improvements in atmospheric fumigation have raised the limits of ball size 25 per cent. Experimental fumigation of sweet potato slips and vine cuttings with methyl bromide for sweet potato weevil control was concluded, and about 1,500,000 plants were fumigated commercially at a cost for the fumigant of about two cents for the number of plants required for one acre. In the treatment of sweet potatoes in transit 70 carloads were fumigated. Storage fumigation of seed potatoes for control of the potato tuber worm was applied commercially on the Eastern Shore of Virginia, with a resultant saving of about \$5,000 to the farmer in that area. Fumigants, schedules, and methods were developed for use by the armed forces in the destruction of body lice in clothing.

### INSECTICIDE INVESTIGATIONS

The fall of Singapore cut off half this country's supply of rotenone-bearing roots, of which about 9,000,000 pounds were imported in 1941. To encourage the collecting and growing of rotenone in South and Central America, the Bureau has analyzed numerous samples of plant material for rotenone content. Chemical investigations of devil's shoestrings, certain strains of which contain 5 per cent of rotenone, were continued. Anabasine, a potent alkaloid closely related to nicotine but four or five times as toxic to certain aphids, is found in the tree tobacco, and samples of this plant growing in the Southwestern States have been examined. Pyrethrum flowers, which now come almost exclusively from East Africa, have been studied chemically. A more exact and quicker method of determining the content of active principles in these flowers was developed, and their structures were definitely determined. Synergists which boost the action of the pyrethrins, and thus in effect augment the supply of pyrethrum flowers, were studied. Sesamin from sesame oil and asarinin from the southern prickly ash were found effective for this purpose. Certain synthetics struc-

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turally related to these plant principles are being investigated. One of the most significant developments has been the distribution of non-volatile insecticides in the form of aerosols. A highly effective aerosol is made by dissolving pyrethrum extract in dichlorodifluoromethane (Freon) which, at ordinary temperature, is a gas but can be condensed to a liquid under about 100 pounds' pressure. Opening a valve in the cylinder holding the solution forces the contents into the air. The dichlorodifluoromethane immediately volatilizes, leaving a suspension of colloidal particles of pyrethrins which are extraordinarily deadly to many dangerous insects. The Army, the Navy, and the Public Health Service are adopting this method of killing mosquitoes under certain conditions. Because dichlorodifluoromethane has no fire hazard and is not poisonous or irritating, this method of applying insecticides has been used successfully in airplanes while in flight.

### FOREIGN PLANT QUARANTINES

The war has greatly affected the arrival of ships and influenced the nature of their cargoes. Vessels frequently arrive in convoys, and almost always without advance notice, creating peaks of work for plant-quarantine inspectors without adequate forewarning. Despite a decrease of 26 per cent from 1941 in the number of ship arrivals, more time was required to complete the inspections, as the average over-all time per vessel rose from 2 hours and 10 minutes in 1941 to 4 hours and 14 minutes in 1942.

### AIRPLANE INSPECTION

The 8,653 airplanes from foreign countries which were inspected upon arrival at 21 ports of entry represented 1,707 more than the number inspected in 1941; 1,338 of these were found to carry prohibited plant material.

### MEXICAN BORDER SERVICE

A total of 54,802 freight cars from Mexico were inspected during the year, which represents an increase of 11,079 over the number inspected during 1941. To safeguard against pest risk it was necessary to fumigate 7,969 freight cars as a condition of entry into the United States. In addition to the freight cars, 3,728 pullman and passenger coaches entered and were inspected. A total of 4,847,529 other vehicles and 841,810 pieces of baggage were examined through cooperation with the customs officials.

### INSPECTION IN HAWAII

The crisis of Dec. 7, 1941 brought abrupt changes in the work in Hawaii. Prior to that date there was indication of a record year as the tempo of national defense activities brought increased movement, and the Federal inspection staff of seven was augmented by four inspectors. Under war conditions there is less movement of fruits and vegetables to the mainland, and the emphasis is placed on cooperation with the Army and the Navy to provide ships, airplanes, baggage, and mail with the maximum of plant-quarantine safeguards possible under the circumstances, and without impeding the war effort.

## FISHERIES

BY CHARLES E. JACKSON

ASSISTANT DIRECTOR, FISH AND WILDLIFE SERVICE,  
DEPARTMENT OF THE INTERIOR

### FISHERIES IN THE WARTIME ECONOMY

The year 1942 marked the transition from a defense status during the previous year to actual wartime

economy. This change affected the fisheries as profoundly as it did other phases of America's economic and social life.

Insistent demands for increased

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war-food production emphasized again the value of fishery resources and the important part they play in our national economy. We not only must feed a population of 130,000,000 persons but we must also supply the most critical food needs of at least 70,000,000 persons in the United Nations.

If "food will win the war and write the peace," as Secretary of Agriculture Wickard has said, the fisheries of the nation must play an important part, for the 4,900,000,000 pounds of fishery products produced in 1941 provide the third largest source of animal protein foods, in addition to vitamins and minerals that are essential in a wartime diet for soldiers and civilians alike. Some hint of the demand for fishery products is given in the fact that the Lend-Lease Administration, early in 1942, called for 200,000,000 pounds of canned fish, and more recently "froze" the entire pack of canned salmon, sardines, herring, and mackerel for the use of the Government.

Recent developments clearly demonstrate also the increasing importance of fresh and frozen fish in the diet of our Army camps. The place canned fish might fill in the feeding of our own civilian population in the event of prolonged air raids is indicated by a recommendation of the Tariff Commission, calling for the establishment at strategic points of stock piles of canned fish for emergency civilian rationing if food-transportation facilities were broken down.

### OFFICE OF THE COORDINATOR OF FISHERIES

To the end that the fishing industry might submit its problems to a single government agency in order to meet the challenge of war, the Office of the Coordinator of Fisheries was established by order of President Roosevelt on July 21, 1942. Secretary of the Interior Harold L. Ickes was named Coordinator of Fisheries; Dr. Ira N. Gabrielson, director of the Fish and Wildlife Service, Deputy Coordinator of Fisheries; and

Charles E. Jackson, Assistant Director of the Service, was appointed as Assistant Deputy Coordinator. Under the terms of the executive order, the Office of the Coordinator of Fisheries is responsible for the development and sustained production of aquatic food supplies essential to the conduct of the war.

Maintaining an overall supervision over the aquatic food supply, the Coordinator of Fisheries also is empowered by the President's order to make specific recommendations to Federal and other governmental agencies and the affected industries to insure maximum coordination of effort in the utilization of their services and facilities and to deal with problems involving supply, allocation, and procurement of equipment required by the fishing industry.

### PACKING PROBLEMS

With the advent of war the fishing industry was confronted with the immediate problem of finding possible substitutes for steel and tin for packing as many fishery products as possible. The next problem was to reduce the use of tin plate for hermetically sealed containers to the lowest minimum to extend the existing stocks of steel and tin.

The fishing industry was also confronted with the necessity of finding substitutes for such critical materials as manila fibre for nets and ropes, materials for insulating holds of vessels and for cold-storage rooms, hemp for burlap bags and covers, and rubber-sealing compounds for containers.

The importance of finding such substitute materials for use in the fishing industry was recognized by Congress early in 1942 when an appropriation of \$172,000 was made available to the Fish and Wildlife Service to conduct technological investigations in this field.

In temporary field laboratories located in the various fish-packing sections of the country, in cooperation with the fishing industry, non-critical materials are being investigated under commercial conditions in fish-



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packing plants. These products, materials, and packs are being subjected to detailed technical and bacteriological examinations in the Service's technological laboratories to determine the suitability of the substitute and the adequacy of the process. Those materials and processes which are found to have promise in conserving critical supplies will then be recommended to the fish-packing industry for adoption, and to the various war agencies interested in obtaining and preserving fishery products and in the conservation of critical materials.

### MOBILIZATION OF COMMERCIAL FISHERIES

The commercial fisheries represent a resource of great strategic and economic value to the nation at a time when there is urgent demand for additional supplies of protein food of high dietary value and for fats and oils for the manufacture of vitamin concentrates, for the manufacture of munitions, and for other industrial purposes. Some species of fish are suffering from overfishing and unsuitable methods of fishing operations which curtail production; other species of real value are relatively unutilized, and their use needs to be stimulated. Scientific investigations of the most practical nature are being conducted to aid the Coordinator of Fisheries in mobilizing the resource and the industry for war. For example, aid has been given to private industry in producing canned mussels as a new war time food for the domestic or foreign market.

The objectives of these scientific investigations are (a) to determine the varying abundance of the supply of fish available for military and civilian consumption, (b) to discover the condition and trend of these fisheries and to foretell future trends of yield, (c) to discover overfishing and wasteful practices of the commercial fishing industry that should be corrected to promote efficient production, and (d) to recommend remedial measures that will permit the management of the supply and its exploitation to se-

cure a maximum yield without endangering the basic resource.

In accordance with the President's directive that war activities must not needlessly destroy our natural resources, investigations of pollution are being carried on, especially those distinct types resulting from war industries and the manufacture of munitions which have direct bearing on the management of certain fisheries.

### FISH PRODUCTION

Anticipating the need for increased fish supplies, the U. S. Fish and Wildlife Service in 1940 ordered an inventory to be made by its fishery biologists of possible new sources of production. The results indicated that the American fisheries could be increased 46 per cent over the 1938 production, provided sufficient vessels, equipment and labor became available, and scientific management measures are adopted. This estimate reaches the enormous total of more than 6,200,000,000 pounds of food and industrial products to be reached within a few years, and this without letting down the bars of wise conservation practices.

Fortunately, the 1941 production was one of the largest in American fishing history, a grand total of 4,900,000,000 pounds. More pink salmon from Alaska, more canned sardines from California and Maine, more vitamin fish oils than ever produced in America before, gave a promising start for supplying proteins and vitamins for Army, Navy, and civilian needs.

### PRODUCTION DEMAND VERSUS CONSERVATION

America is called upon to help feed her allies as well. Great Britain wants 200,000,000 pounds of canned fish from the 1942 United States production and 10,000,000,000 units of Vitamin A contained in fish oils. Production must be increased to meet this demand. The problem is how to get sufficient men, vessels, and supplies to secure additional production. Great responsibility rests upon

## FISHERIES

the Fish and Wildlife Service and the fish and game departments of the several states to meet production demands and yet safeguard sufficient brood stock so that production may continue each year for the duration of the war, for the years following the war when food demands may be even greater, and for the distant future. The old maxim applies: "We can not kill the goose that lays the golden egg," nor can we draw too extensively on the spawning adult fish population.

### MISCELLANEOUS SOURCES OF SUPPLY

Panfish and game fish produced in farm ponds throughout the country also are recognized as food resources of considerable magnitude. The potential volume of this food supply can not be measured accurately, but it is estimated that fish usable for food to be derived from such ponds may reach 100,000,000 pounds for the country as a whole.

Much of the production of warm-water panfish which was formerly allotted to the stocking of public waters for recreational purposes is now being allocated to the stocking of these farm ponds, all of which are potential sources of a wartime food supply if properly managed.

### WARTIME CONTRIBUTION OF THE FISHING FLEET

In every major war fought by the United States, the fishing fleet has formed a second line of defense, fishing boats and fishermen being employed in various capacities—for patrol, as mine-sweepers, in supplying protein food to the armed forces and the civilian population.

In 1917-18 President Woodrow Wilson took steps to augment the personnel and appropriations of the former Bureau of Fisheries to the end that the American fisheries could better contribute to an increased supply of vital proteins for the Army

and Navy, for the civilian population, and for agriculture. An experimental laboratory was set up in Washington, D. C., out of which came fish meals and fish oils. The use of these vital fishery products has increased ever since. A considerable portion of the fishing fleet was taken over by the Navy in the First World War for mine-sweepers.

In the present war, fisheries again have come to the fore, as always in the past. Already the fishing fleet has furnished to the Navy a large number of its most productive fishing vessels for patrolling our shores. Many of the experienced fishing captains and personnel of the industry are using their special knowledge of offshore waters in a worthy contribution to the war.

Fish meals and oils are assuming even greater importance. The Department of Agriculture is seeking increased production of fish meal for poultry feed and for other agricultural uses. Vitamin A fish oils, no longer available from foreign import sources, are in such demand that the heretofore despised shark is being hunted throughout the waters of the nation. Vitamin A fish oils serve many uses, an important one being its use by air pilots to prevent night blindness.

War requirements will make it necessary for the American fishing industry to further increase production. With this need to produce comes a thousand problems that are requiring our best efforts to solve. The Fish and Wildlife Service has already dispensed with some of its normal functions for the duration so as to put every energy and resource into the war program.

Once again the fishing industry in this period of greatest national emergency will form the second line of defense, and at the same time will provide promptly, efficiently, and adequately one of the most essential foodstuffs needed for our fighting forces.

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### FORESTRY

BY CHARLES E. RANDALL  
UNITED STATES FOREST SERVICE

#### WARTIME WOOD AND TIMBER DEMANDS

Wood in 1942 became one of the strategic materials in the war effort. Wood was needed in vast quantities for war purposes—for cantonments, ships and docks, training planes, army truck bodies, boxing and crating of war materials, and hundreds of other uses. Construction of army barracks and camp facilities, for example, required some 2,200 board feet of lumber per soldier.

Lumber production in 1942 was expected to reach a total of about 35,000,000,000 feet, nearly a third above the 1936-40 average but still falling short of estimated needs. Increasing difficulties were experienced in procuring timber in the sizes and qualities needed for special purposes, such as ship timbers and aircraft woods. The War Production Board issued orders freezing supplies of construction lumber and certain other forest products for immediate war needs.

Labor and equipment shortages contributed to the difficulties in meeting wartime timber needs, but a more fundamental cause was the fact that the Nation's tolerance of continued destructive liquidation of timber stands over the years had greatly reduced the volume of accessible and usable timber. While one-third of the country's total area was classed as forest land, the remaining stands of old-growth timber were confined mainly to relatively small areas of the Northwest and South, and much of the remainder of the forest land was producing only a fraction of its potential timber growth.

The United States Forest Service reported that destructive exploitation of timber stands had accelerated with the increasing war demands, and warned against unnecessary forest waste and devastation in meeting war

needs. A number of progressive lumber operators initiated conservation practices on their holdings through participation in a "tree farm" program. It was estimated, however, that approximately 80 per cent of all cutting on private lands was still without regard to perpetuating timber growth. The Forest Service repeated its recommendation for some system of public regulation of all timber cutting, as a means of checking destructive liquidation and insuring the continued productivity of forest lands.

#### LIQUIDATION OF THE CCC

On July 1, 1942 the Civilian Conservation Corps came to an end. Initiated in 1933 as a combined unemployment relief and conservation measure, the CCC had accomplished a vast amount of work in reforestation, forest rehabilitation, protection, and improvement. At the peak of the program, 1,500 CCC camps were in operation, working on projects under supervision of the U. S. Forest Service, Park Service, Soil Conservation Service, and other agencies. A total of some 2,000,000 young men spent six months or more in the Corps. The work of the Corps advanced the country's conservation program by many years, and the value of the work to the enrollees themselves in health building and job training was recognized. In 1942 the Congress decided that the CCC program should be terminated, and liquidation of the organization and equipment began on July 1.

#### FOREST FIRES

An increase in man-caused forest fires in the spring of 1942 emphasized the importance of wartime fire control. Added to normal fire hazards were the possibilities of sabotage and incendiary bombing by the enemy. An actual attempt to fire the forests

of southern Oregon was made by the Japanese in September. Because forest fires in wartime could disorganize transportation and communication, divert industrial labor or military forces to the unproductive task of fire fighting, and cause damage not only to forest resources but also to industries and facilities located in forest areas, the Forest Service and co-operating agencies launched a special wartime forest fire prevention campaign. It was pointed out that fires caused by carelessness on the part of otherwise patriotic citizens could do as much damage as those caused by enemy action. The slogan of the campaign was "Careless Matches Aid the Axis."

The calling of men to military service and war industries caused a serious shortage of trained personnel for fire fighting that was aggravated by the liquidation of the Civilian Conservation Corps, which had been the principal man-power reserve of the forest protection agencies. To help meet this situation the Office of Civilian Defense cooperated with the U. S. Forest Service and state forestry departments in establishing a nationwide volunteer Forest Fire Fighters Service. Local civilian volunteer units were organized in many areas, and trained under experienced foresters. With emergency fire control funds appropriated by Congress, the Forest Service and state forestry agencies intensified protection in critical areas.

## GUAYULE RUBBER

When Japanese conquest shut off the importation of rubber supplies, the United States looked to possible domestic sources of rubber. The Forest Service was given a significant role in the emergency rubber production program on March 5 when the President signed the Emergency Rubber Act authorizing the production of natural rubber from guayule and other rubber-bearing plants in the western hemisphere. Rubber had been produced from guayule in the United States and Mexico on a limited scale for a number of years. Some small guayule plantations and a processing

plant had been developed by the Intercontinental Rubber Company at Salinas, Calif., and the Government acquired these properties on a nucleus for the expanded project.

The first task of the Forest Service was to increase nursery production of guayule seedlings. It was a race against time, as the seed had to be in the ground before the rapidly approaching dry season, otherwise a year's time would be lost. In a little more than two months, 520 acres of nursery beds had been soil-tested and prepared, an overhead irrigation system with 100 miles of pipe was installed, housing was provided for 1,000 workers, and 21,000 pounds of seed—the entire available supply—was sown. The nursery was expected to provide seedlings for planting some 50,000 acres to guayule in the winter of 1942-3. Nearly 100 test plots were planted in California and the Southwest, in Mexico, and other Latin American countries to determine areas suitable for guayule production.

During the summer more than 130,000 pounds of seed were harvested from existing guayule plantations, and further expansion of nursery planting was started. Supplies of seed were sent to several Latin American countries, to the Chinese Bureau of Forest Research at Chungking, and to the Australian Council for Scientific and Industrial Research for experimental plantings.

Some rubber can be obtained from guayule plantations within a year after field planting. However, the yield increases annually for a number of years. On a four-year harvesting rotation a yield of 1,200 to 1,500 pounds of rubber per acre has been obtained.

## OTHER RUBBER SOURCES

In the hope of developing other sources of natural rubber, the Department of Agriculture investigated a number of rubber-producing plants. Several hundred pounds of Russian dandelion (*Kok-saghyz*) seed sent to this country from Russia were planted at agricultural experiment stations and Forest Service nurseries in north-



## XI. AGRICULTURE AND ALLIED INDUSTRIES

ern states where the temperature variations are comparable with those to which the plant is accustomed. It is grown on about 2,000,000 acres annually in Russia where the plant is harvested at the end of the first growing season. The Department also tested rabbitbrush growing in western national forests for rubber content. Other plants tested included Colorado rubberweed, milkweed, and burrow weed.

While synthetic rubber remains the most immediate hope for meeting the Nation's emergency rubber requirements, the development of natural rubber supplies is also important because synthetic rubber at present requires an admixture of natural rubber for most uses.

### WOOD FOR WAR IN TESTS AND RESEARCH

In order to facilitate the production of wood for war uses and as a substitute for critical metals, the Forest Service undertook a number of special projects and surveys. A survey was made of the location, volume, logging methods, and possibilities for increasing the production of aircraft spruce in the Pacific Northwest. Requirements and supplies of yellow birch for airplane plywood were surveyed and, at the request of the War Production Board, the Appalachian area was surveyed to determine supplies of white oak for ship building. Sources of tannin were investigated, and measures were taken to facilitate the movement of chestnut wood to tannin extraction plants.

Requirements for naval stores in 1942 were estimated at 58 per cent above production figures for 1941. A new research development by the Southern Forest Experiment Station showed promise of helping to increase production. The foresters found that a solution of sulphuric acid applied to freshly-chipped slash pine "faces" increased the gum yield up to 60 per cent. When cooperating turpentine operators tested the new technique on a large scale the average gum yield increased by 25 per cent. New methods of procedure are expected to in-

crease the efficiency of acid stimulation in 1943.

The Forest Products Laboratory at Madison, Wis. turned over its entire facilities to problems of utilizing wood for war, developing wood substitutes for scarce materials, adapting natural or processed wood to military uses, and directly aiding the military establishments and war industries in efficient wood use.

The Laboratory assisted aircraft manufacturers by supplying the industry with research data on aircraft design, utilization of wood for airplane parts, cutting, selecting, seasoning, and gluing of plywood and solid wood, buckling of plywood, nail gluing, and material and process specifications of woods for aircraft use. Accelerated drying schedules for aircraft lumber were prepared, and substitute materials were tested in the event shortages develop in finishing materials used on aircraft wood surfaces.

### "COMPREG"

A Forest Products Laboratory development for which an increasing number of uses is indicated is "compreg," a new material formed by the compression and impregnation of wood with phenolic resins. Compreg is being used in spar plates, propellers, fuselages, and landing wheels of airplanes and as a substitute for metals in torpedo boats and other naval auxiliary units. The material, which is in a highly compressed form, has the strength of mild steel. A paper plastic approaching steel in tensile strength has also been developed by the Laboratory technicians for possible use in aircraft construction.

### SHIPPING CONTAINERS

An allotment of funds from the War Department enabled the Laboratory to expand its force of research scientists working on shipping container problems for Army ordnance and quartermaster supplies. When the Army Ordnance Department commissioned the Laboratory's container staff to revise and redesign its boxes and crates for shipping army material

## FORESTRY

to fighting zones overseas, several members of the Laboratory staff were assigned to Army arsenals, warehouses, and supply depots as field consultants to assist in the packaging and shipping of weapons, ammunition, and food supplies. Lightweight container designs were developed for the transport of equipment by air, and a new method of crating motors for the armed forces reduced damage in transit, and at the same time cut expense and effected a saving in shipping space.

### CORK

The Forest Service investigated potential domestic sources of cork and cork-like materials to replace the cork formerly imported from Mediterranean countries. A procedure was developed for separating corky tissue from the bark of native Douglas fir, and yields of almost pure granular cork from material obtained in the Rocky Mountain region ran as high as 43 per cent. Samples of a Brazilian cork, when tested, gave evidence of proving suitable for use as engine gaskets and bottle caps.

### OTHER INVESTIGATIONS

A new type of interior paint that checks flame spread in wood was developed by the Forest Service for the protection of war materials subject to high fire hazard, and new substances obtained from wood lignin improved the anti-knock characteristics of gasoline to a greater degree than materials in use. Investigations were begun on the yucca group of desert plants in the Southwest to determine whether they might prove practical as substitutes for imported hemp and sisal.

### NATIONAL FORESTS IN THE WAR EFFORT

On the national forests and on state forests hundreds of lookout stations functioned in the aircraft warning system, being manned 24 hours a day by trained observers. After Pearl Harbor, arrangements were made for instantaneous integration of Forest

Service communication facilities with military communication systems in the event national forest territory should become an actual theater of war.

Foresters were assigned to projects of direct service to war operation, furnishing advice in selecting sites for defense plants, military camps, and bases; assisting in camouflage plantings and in revegetating air fields; and consulting with the Army on the organization and training of mountaineering troop units. National forest areas made available for use by the Army and Navy for camps and maneuver areas during 1942 totaled 771,000 acres in Alaska, Colorado, Louisiana, Florida, North Carolina, and Texas.

Large quantities of national forest timber were provided for war purposes during the year, although sustained yield methods of cutting were still required to assure continued timber growth on logged areas. The volume of timber cut increased from 1,290,623,000 board feet in 1939 to about 2,200,000,000 board feet in 1942. The southern and north central national forest regions reported the largest single timber sales for those regions in the history of the Forest Service. A marked increase in the sale of mixed species and pulpwood was noted.

In addition to supplying wood for war use, national forests also contributed to wartime food supplies and wool and hide supplies by furnishing seasonal grazing for more than 7,000,000 head of cattle and sheep in the western states. The Forest Service warned against overstocking the ranges as was done in the first World War; many of the ranges have not yet recovered. Conservative stocking was urged, to increase the yield of meat per animal and at the same time ensure adequate range forage for the future.

Further aiding the war effort, the Forest Service constructed roads on national forests during 1942 to provide access to a number of deposits of chrome, tungsten, and other important metals.

# XI. AGRICULTURE AND ALLIED INDUSTRIES

## PERIODICAL PUBLICATIONS

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| <p><i>Agricultural Education</i><br/>1714 Locust Street, Des Moines, Ia.</p> <p><i>Agricultural Engineering</i><br/>American Society of Agricultural Engineers, St. Joseph, Mich.</p> <p><i>American Agriculturist</i><br/>Savings Bank Bldg., Ithaca, N. Y.</p> <p><i>American Forests</i><br/>American Forestry Association, 919 Seventeenth St., N.W., Washington, D. C.</p> <p><i>American Fruit Grower</i><br/>1370 Ontario Street, Cleveland, O.</p> <p><i>Country Gentleman</i><br/>Curtis Publishing Company, Independence Square, Philadelphia.</p> <p><i>Cotton Trade Journal</i><br/>810 Union Street, New Orleans, La.</p> <p><i>Dairy World</i><br/>608 South Dearborn Street, Chicago.</p> <p><i>Farm Journal</i><br/>Farm Journal Inc., Washington Square, Philadelphia.</p> <p><i>Fishing Gazette</i><br/>461 Eighth Ave., New York City.</p> <p><i>Forestry News Digest</i><br/>American Tree Association, Washington, D. C.</p> | <p><i>Hoard's Dairyman</i><br/>Fort Atkinson, Wis.</p> <p><i>Journal of Agricultural Research</i><br/>Superintendent of Documents, Washington, D. C.</p> <p><i>Journal of the American Society of Agronomy</i><br/>Geneva, N. Y.</p> <p><i>Journal of Dairy Science</i><br/>Ohio State University, Columbus, Ohio.</p> <p><i>Journal of Farm Economics</i><br/>American Farm Economic Association, Menasha, Wis.</p> <p><i>Journal of Forestry</i><br/>Society of American Foresters, Washington, D. C.</p> <p><i>Pacific Fisherman</i><br/>71 Columbia Street, Seattle, Wash.</p> <p><i>Produce Guide</i><br/>165 Duane Street, New York City.</p> <p><i>Successful Farming</i><br/>Meredith Publishing Company, Des Moines, Ia.</p> <p><i>Wallace's Farmer and Iowa Homestead</i><br/>1912 Grand Ave., Des Moines, Ia.</p> |
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## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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| <p>AMERICAN ASSN. OF NURSERYMEN,<br/>P.O. Box 355, Louisiana, Mo.</p> <p>AMERICAN COUNTRY LIFE ASSN., 297<br/>Fourth Ave., New York City.</p> <p>AMERICAN FARM BUREAU FEDERATION,<br/>58 E. Washington St., Chicago, Ill.</p> <p>AMERICAN FORESTRY ASSN., 919 Seven-<br/>teenth St., N.W., Washington, D. C.</p> <p>AMERICAN NATIONAL LIVESTOCK ASSN.,<br/>515 Cooper Bldg., Denver, Col.</p> <p>AMERICAN ORNITHOLOGISTS' UNION<br/>U. S. National Museum, Washing-<br/>ton, D. C.</p> <p>AMERICAN PHYTOPATHOLOGICAL SOCI-<br/>ETY, Bureau of Plant Industry,<br/>Washington, D. C.</p> | <p>AMERICAN POULTRY ASSN., Fort<br/>Wayne, Ind.</p> <p>AMERICAN SOCIETY OF AGRONOMY, Ag-<br/>ricultural Experiment Station, Mor-<br/>gantown, W. Va.</p> <p>AMERICAN SOCIETY OF ANIMAL PRO-<br/>DUCTION, University of Nebraska,<br/>Lincoln, Neb.</p> <p>AMERICAN SOCIETY OF EQUITY, 311<br/>Daily Star Bldg., Minneapolis,<br/>Minn.</p> <p>AMERICAN SOCIETY FOR HORTICULTURAL<br/>SCIENCE, Lock Box 299, Geneva,<br/>N. Y.</p> <p>AMERICAN SOCIETY OF MAMMALOGISTS,<br/>Museum of Zoology, University of<br/>Michigan, Ann Arbor, Mich.</p> |
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## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

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| <p>AMERICAN VETERINARY MEDICAL ASSN.,<br/>600 S. Michigan Ave., Chicago, Ill.</p> <p>ASSOCIATION OF LAND-GRANT COLLEGES<br/>AND UNIVERSITIES, c.o. Experiment<br/>Station, Lexington, Ky.</p> <p>BOYCE-THOMPSON INSTITUTE FOR<br/>PLANT RESEARCH INC., 1086 N.<br/>Broadway, Yonkers, N. Y.</p> <p>DAIRYMEN'S LEAGUE CO-OPERATIVE AS-<br/>SOCIATION, INC., 11 W. 42nd St.,<br/>New York City.</p> <p>FARM WOMEN'S NATIONAL CONGRESS,<br/>Clarksville, Ia.</p> <p>INSTITUTE OF AMERICAN MEAT PACK-<br/>ERS, 509 S. Wabash Ave., Chicago,<br/>Ill.</p> <p>INTERNATIONAL FARM CONGRESS OF<br/>AMERICA, Continental Bldg., Kansas<br/>City, Mo.</p> <p>IZAAK WALTON LEAGUE OF AMERICA,<br/>Merchandise Mart, Chicago, Ill.</p> <p>JEWISH AGRICULTURAL SOCIETY, INC.,<br/>386 Fourth Ave., New York City.</p> <p>MIDDLE ATLANTIC FISHERIES ASSN.<br/>INC., 203 Front St., New York City.</p> <p>NATIONAL AUDUBON SOCIETY, 1006<br/>Fifth Ave., New York City.</p> <p>NATIONAL BOARD OF FARM ORGANIZA-<br/>TIONS, 1731 I St., N.W., Washing-<br/>ton, D. C.</p> | <p>NATIONAL DAIRY COUNCIL, 111 N.<br/>Canal St., Chicago, Ill.</p> <p>NATIONAL EDUCATIONAL AND CO-OPERA-<br/>TIVE FARMERS' UNION OF AMERICA,<br/>1731 I St., N.W., Washington, D. C.</p> <p>NATIONAL FERTILIZER ASSN., 676 In-<br/>vestment Bldg., Washington, D. C.</p> <p>NATIONAL GRANGE, 970 College Ave.,<br/>Columbus, O.</p> <p>NATIONAL HIGHWAYS ASSOCIATION,<br/>Bass River, Cape Cod, Mass.</p> <p>NATIONAL LIVESTOCK AND MEAT BOARD,<br/>407 S. Dearborn St., Chicago, Ill.</p> <p>NATIONAL POULTRY COUNCIL, Davis-<br/>ville, R. I.</p> <p>PEOPLE'S LOBBY, INC., 1410 H Street,<br/>N.W., Washington, D. C.</p> <p>SOCIETY OF AMERICAN FLORISTS AND<br/>ORNAMENTAL HORTICULTURISTS, INC.,<br/>Stevens Hotel, Chicago, Ill.</p> <p>SOCIETY OF AMERICAN FORESTERS, 825<br/>Hill Bldg., Washington, D. C.</p> <p>UNITED STATES LIVESTOCK SANITARY<br/>ASSN., 33 Livestock Exchange Bldg.,<br/>Wichita, Kan.</p> <p>VEGETABLE GROWERS' ASSN. OF AMER-<br/>ICA, c.o. F. L. Allen Co., Philadel-<br/>phia, Pa.</p> <p>WOMEN'S NATIONAL FARM AND GAR-<br/>DEN ASSN., INC., Amber, Pa.</p> |
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## DIVISION XII

### MINERAL INDUSTRIES

#### GOLD AND SILVER

BY WALTER RENTON INGALLS  
CONSULTING ENGINEER, NEW YORK

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##### GOLD

The world's gold production, outside of Russia, has been fairly steady at about 36,000,000 oz. per annum for several years. The production of Russia in recent years has been estimated at 4,000,000 oz. per annum, which may be regarded as nothing better than an intelligent guess.

The world's production of gold will turn out to have been less in 1942 than in 1941, probably less by 2,000,000 to 3,000,000 ounces. The production of South Africa, which accounts for upward of one-third of the total, will be about the same as in 1941, *viz.*, about 14,000,000 oz. The monthly figures are showing large shrinkages in the productions of the United States and Canada, which are the gold producing countries next in importance to South Africa. This shrinkage is ascribable to drafting of men from the gold mines and deprivation of materials. Toward the end of 1942 the War Production Board ordered suspension of gold mining in this country. This drastic order has been modified in response to appeals by the producers of the Black Hills (South Dakota) and Cripple Creek (Colorado), who regarded the order as ill considered. Anyway, the release of men in this way may be disappointing.

##### SILVER

The world's production of silver in recent years has been around 270,000,000 oz. per annum, of which

about one-half has been the production of mines in the United States, plus foreign silver passing through American refineries. Judging from our monthly refinery statistics their production in 1942 was substantially less than in 1941, both as to domestic and foreign silver. On the other hand some important silver producing countries, *e.g.*, Mexico and Peru, have been showing no decrease. It may be merely discerned that world's production of silver in 1942 was less than in 1941 and perhaps may be computed around 250,000,000 oz.

At the end of August, 1942 the price for imported silver was advanced from 35.375c. to 45c. The increase permitted the Mexican Government to levy a special emergency tax of 7c. per ounce. The price for domestic silver remained unchanged at 71.111c.

Of special interest was the further great increase in the industrial use of silver in this country. During recent years this has been from 25,000,000 to 35,000,000 ounces per annum, but in 1941 rose to 80,000,000 and in 1942 probably has been larger owing to military use, such as bearings in aircraft engines, and in brazing alloys and in the several soft solder alloys.

An extraordinary use developed in substituting silver for copper in the busbars of the new aluminum and magnesium electrolytic metallurgical plants. The U. S. Government has an accumulation of about 100,000

## IRON AND STEEL

tons of silver acquired under the Silver Purchasing Act. Some of this is held against silver certificates. Out of the unpledged holding 47,000 tons was in 1942 released to the Defense Plant Corporation for use in government-owned or operated plants with the condition that within five years it must be returned pound for pound to the U. S. Treasury, and 15,000 tons had been so delivered up to Dec. 1.

The increase in the industrial use of silver put it under official control, with priorities, etc., which along with

prohibition of use of copper for alloying, created much trouble in the manufacturing centers at Attleboro, Mass. and Providence, R. I., where the production of ornamental jewelry, silverplated ware, and sterling ware are important industries; in November-December there was acrimonious controversy in Congress over this, and the government silver policy in general. The whole subject of silver-buying and hoarding by the Government is bitterly controversial, and is being discussed vehemently in the Senate as 1942 closes.

## IRON AND STEEL

By EDWIN F. CONE

EDITOR, *Metals and Alloys*

### GENERAL

The predominating note in the American steel industry during 1942 was production and still more production. When this review was written a year ago, it was thought the record achievements of 1941 were not likely to be greatly exceeded in 1942 though they were of great importance. This estimate has proved entirely erroneous; production of steel ingots and castings and of pig iron as well as of other products again made new records. Capacity for making both steel and pig iron was also increased.

The declaration of war which came near the close of 1941 resulted in turning American industry into the Arsenal of Democracy. By the end of 1942 virtually all industry which could be converted to war products was producing matériel for winning the war. The entire automobile industry at the close of 1941 was producing many types of war implements, particularly tanks, guns, airplanes, and so on. During most of the year the steel industry as a whole operated close to capacity, the output in several districts frequently exceeding estimated rated capacity.

### PIG IRON AND STEEL OUTPUT

The production of both pig iron and steel in 1942 was in excess, by a substantial margin, of the records made in 1941. As this review is written actual or final data for 1942 are not available, but fairly reliable estimates are. According to the year-end statement of the president of the American Iron and Steel Institute, the production of steel ingots and castings was about 86,092,209 net tons, of which 3,974,368 tons were electric steel. This exceeded the 1941 total by over 3,360,700 tons. The peak output during the First World War was 50,467,880 tons in 1917.

One of the important developments of the year was the increase in capacity. At the close of 1941 the capacity for steel ingots and castings was 88,569,970 tons; this had probably been expanded to 93,000,000 tons by the close of 1942. An authoritative statement is to the effect that "by July 1, 1943, the American steel industry is expected to have facilities to produce steel at the rate of 96,000,000 tons annually."

Pig iron capacity was also expanded in 1942 by the erection of new blast furnaces and the enlargement of old

## XII. MINERAL INDUSTRIES

ones. No data are available at this writing as to the expansion in tons over the capacity, as of Jan. 1, 1942, of 60,393,980 tons. The 1941 production of pig iron and ferro-alloys was 56,686,604 tons. The 1942 output was probably close to 60,000,000 tons. The following table of the American Iron and Steel Institute, gives the output of pig iron and steel over a period of years:

**PIG IRON AND STEEL OUTPUT IN NET TONS**

Year	Pig Iron	Steel
1942.....	60,000,000*	86,092,209*
1941.....	56,686,604	82,839,259
1940.....	47,398,529	66,982,686
1939.....	35,677,097	52,798,714
1938.....	21,460,164	31,751,990
1937.....	41,582,550	56,636,945
1936.....	34,752,689	53,499,999
1935.....	23,937,423	38,183,705
1934.....	18,075,202	29,181,924
1933.....	14,947,074	26,020,229
1932.....	9,835,227	15,322,901
1931.....	20,637,516	29,058,961
1930.....	35,562,429	45,583,421
1929.....	47,727,661	63,205,490
1925.....	41,104,634	50,840,747
1920.....	41,357,105	47,188,886

\* Estimated.

### ALLOY STEELS

The demand for alloy steels in 1942 reached proportions undreamed of in peacetime. Output soared to new heights. An estimate of the total is 11,400,000 net tons of high grade steels, including the NE steels mentioned later. This is about 40 per cent more than the 1941 total, then a record, and it is almost six times the 1918 output. Actual data for this

Year	Total Alloy Steel	Per Cent of Total Steel
1929.....	4,432,072	7.01
1930.....	2,736,508	6.00
1931.....	1,630,623	5.62
1932.....	894,436	5.83
1933.....	1,732,845	6.65
1934.....	1,805,748	6.18
1935.....	2,374,017	6.21
1936.....	3,229,657	6.04
1937.....	3,396,541	6.00
1938.....	1,653,510	5.21
1939.....	3,211,955	6.08
1940.....	4,965,887	7.41
1941.....	8,206,129	9.53

grade of steel for 1942 are not available but statistics for 1941 have been published and it is possible to bring the foregoing table of a year ago up to date.

The 1941 output of alloy steels, according to the official data of the American Iron and Steel Institute, was 8,206,129 tons, again a new record and substantially above the 4,965,887 tons for 1940. There is little doubt but that the official data for 1942 will show a total not far from the 11,400,000 tons mentioned above.

### STAINLESS STEELS

The demand for stainless steels—the high chromium and nickel-chromium types—continued to expand in 1942. A new record in output was made. The total for the year was 371,984 tons, an increase of about 45 per cent over the 1941 record. The production statistics, data collected by the American Iron and Steel Institute, are as follows:

Year	Total Net Tons
1934.....	55,905
1935.....	73,580
1936.....	101,882
1937.....	156,618
1938.....	95,954
1939.....	179,620
1940.....	249,980
1941.....	371,984

There is no doubt but that the 1942 total, not available at this writing, will substantially exceed that of 1941; there is a sustained war demand for this grade of steel. The expansion may have been less than in 1941 owing to restricted supplies of chromium and nickel.

### ELECTRIC STEEL

Electric steel continued to be one of the outstanding features of operations in 1942; new records were made not only in production but in the number of furnaces installed. The output for 1942 was 3,974,368 tons as compared with 2,869,256 net tons for 1941, according to the American Iron and Steel Institute.

The capacity of the electric steel industry on Jan. 1, 1942 was officially placed at 3,737,510 tons. By July 1,

## COAL AND COKE

this capacity had expanded to 4,225,890 tons, and as 1943 came into the picture it was still growing. This is more than twice the capacity of 1,882,630 as of Jan. 1, 1940. Not only the demand for alloy steels in general for war purposes but also the production of cast and wrought armor plate were and are factors in the expansion.

### STEEL PLATE PRODUCTION FOR SHIPBUILDING

Two developments, among several important ones during 1942, should be briefly stressed in this review—the production of steel plates for the greatly expanded shipbuilding program and the formulation of a new series of steels known as the National Emergency (NE) Steels.

As to steelplates—to meet the urgent demand in 1942, the steel industry produced the astounding total of 11,600,000 tons or almost 90 per cent more than the record production of 1941. Much of this was rolled on strip mills changed to produce plates.

### NATIONAL EMERGENCY STEELS

As to the NE Steels—these were

developed by steel company metallurgists as a completely new series of low-alloy compositions. These steels help to conserve strategic and critical materials and are in very many cases satisfactory substitutes or alternates for the higher alloy steels. One such series was developed at the urgent request of the WPB in a period of about 10 days.

### THE OUTLOOK

Speculation or predictions as to the future are futile. If the war continues through 1943, it is likely that new records will again be recorded in steel and pig iron. Capacity is constantly expanding and demands for steel and iron are sure to increase unless the war ends suddenly. Lack of scrap is a limiting factor but the campaign to gather domestic and industrial old material is having considerable success.

As one looks back over the year just closed, it can confidently be said that the steel industry has done a remarkable job. Without it, the war could not be prosecuted.

## COAL AND COKE

BY R. DAWSON HALL

ENGINEERING EDITOR, *Coal Age*

### COAL PRODUCTION

Figures of bituminous coal production for 1942 disclosed 580,000,000 net tons, or 12.8 per cent greater than in 1941 when 514,149,000 tons were produced. Anthracite output in 1942 was 59,961,000 net tons, or 6.4 per cent larger than in 1941, during which year 56,368,267 tons were mined. These U. S. Bureau of Mines figures are subject to correction, but they are probably quite close to the truth. However, the output of the "bootleg" coal mines in the anthracite region and of very small mines everywhere is disregarded in these estimates, and will be also in the final calculations. The quantity of bootleg coal is de-

clining rapidly, and coal production equal to that decline has been added to the legitimate production, so the 6.4 per cent increase should be discounted. The percentage increase in bituminous coal is less subject to question. Increase in tonnage is due not to an increase in capacity but to greater steadiness in operation. The weekly tonnages were sometimes higher in 1941 than in 1942 in both anthracite and bituminous operation, not a favorable portent for 1943.

### COKE OUTPUT

Byproduct coke production for 1942 was 62,086,900 net tons as against 58,482,000 tons in 1941, a gain of 6.2 per



## XII. MINERAL INDUSTRIES

cent. Beehive coke output was 7,913,400 tons in 1942 as against 6,704,200 in the preceding year, an increase of 18 per cent.

### COAL STORAGE STOCKS

Stocks of bituminous coal at industrial storage yards on Nov. 1, 1941 were 51,562,000 tons and on the same date a year later were 79,042,000 tons, a gain of 27,480,000 tons, so production was that much ahead of consumption in 1942. Up to Oct. 1 of that year, 80,092 domestic coal stokers were sold, a decrease of 52.3 per cent from the sales in the same period of 1941. Oil-burner sales in the same period dropped 72.5 per cent. Both types of equipment are finding continuously decreased sales, for in October, 1942, (most recent report available) there were 75.7 per cent fewer stokers and 87.3 per cent fewer oil burners sold than in October, 1941.

Throughout the year the Administration feared a coal shortage. That it did not eventuate was possibly thanks to the early expression of this fear and to the relative failure to induce consumers to switch from oil to coal. As early as Jan. 8, 1942, Secretary of the Interior Ickes urged industries to stock coal while surplus mine capacity and transportation facilities were available.

### PRIORITIES IN THE COAL INDUSTRY

Though the coal industry got priorities only for what it absolutely had to receive to keep the wheels turning, it was given, from the first, a high order of precedence and a sympathetic hearing. Such priorities dated back to an order issued June 30, 1941.

In the following December, mine operators were allowed to apply the preferred rating known as A-3 to both new equipment and machinery as well as to repair and maintenance parts, which formerly had received only an A-8 rating, and an A-1-a rating was provided for actual breakdowns or suspensions with an A-1-c rating in procuring such materials as were needed to guard against either eventuality. Manufacturers were given pri-

orities for materials and A-3 ratings.

Throughout 1942, operators were urged to place their orders well in advance of needs and manufacturers to present their requirements several months ahead, so that provision might be made for filling them when the time came. However, it was specified that the dollar value of the repair parts, sought in any quarter should never exceed the dollar value of a similar quarter in 1941.

Every effort was made to prevent operators from obtaining priorities for materials when they could recondition and use what they had, could buy elsewhere or could make replacement equipment themselves or when it was clear that they would not be able to man the machinery after it arrived. New mines nevertheless were opened, especially in the West, to satisfy new steel production and also the increased railroad and industrial activity of that region on which the Pacific war was making big demands.

### COAL PRICES

Long before 1942, a floor had been laid under mine prices to prevent undue competition. On Jan. 18, the Office of Price Administration urged retailers to hold down retail prices, and on March 31, it issued Maximum Price, Regulation No. 112 covering maximum mine prices for anthracite, effective April 1. A further order, M.P.R. No. 120, was promulgated covering bituminous maximum prices, effective May 18.

Examiner McGowan of the Bituminous Coal Division, Department of the Interior, recommended increases in bituminous prices, however, July 30 which were established by Acting Director, Office of Solid Fuels, Aug. 28, and affirmed, Sept. 30 by H. L. Ickes, chairman of that body. Ceiling prices for materials and equipment used at coal mines were imposed in February.

### OIL SUBSTITUTION DRIVE

Little progress was made with the drive to substitute oil for coal. Many who had coal furnaces had thrown out the grates to introduce oil burn-

ers. When the scrap campaign started, they sold or gave away these grates and when the call came to use coal in place of oil, they had no grates for that purpose. In some cases also the lugs had been burned off, and new grates could not readily be installed. Only the extremely cold weather of the winter caused any really active reestablishment of coal, but even that failed to make a dent in the quantity of oil consumed. More successful had been the attempt to promote the stocking of coal.

### MINING AND LABOR FACTORS

During the early part of the year, several integrations of operators in the East occurred—the Southern Coal Producers Association, at Cincinnati, O., the Eastern Coal Sales Co., at Bluefield, W. Va., and the Upper Monongahela Valley Association at Fairmont, W. Va.

Efforts were made to ascertain the days lost through absenteeism and to correct that evil. The reports showed that about 10 per cent of time was lost by miners, and all of this was charged against "absenteeism," but some of this loss of time was said to be due to men laid off because their working places were finished or were wet or unsafe and because other places were not made immediately available. However, in many cases, the seams were thin and the men old (the more active having been drawn by the draft or lured by the higher pay of war industries), making steady work quite burdensome, especially for men unaccustomed to work in such low places. The usual complaints were made of labor piracy.

Disposition to believe coal is coal and can be used without regard to equipment caused persons outside the coal industry and unacquainted with the industrial use of coal to favor its zoning, hoping in that way to shorten transportation distances and eliminate cross-hauling. The Solid Fuels Advisory War Council early in November voiced its opposition to zoning which it declared "wholly impractical." Large furnaces, today, are

tailor-made to suit certain kinds and grades of fuel.

### MINING FATALITIES

Three big explosions occurred in 1942: Jan. 27, at the Wadge Mine, Victor-American Fuel Co., Mt. Harris, Col., 34 fatalities; May 12, Christopher No. 3, Osage, W. Va., 56 fatalities; and July 9, No. 2 Mine, Pursglove Coal Mining Co., Pursglove, W. Va., 20 fatalities. Another explosion occurred July 20 when water entered a refuse pile causing a slide which killed seven persons, at the mines of the Oakwood Smokeless Coal Co., Oakwood, Va. A similar explosion occurred at a nearby refuse pile.

Fatality figures of the U. S. Bureau of Mines include fatalities occurring within a year after an accident, so, for that length of time, statistics continue uncertain, but it seems likely that the fatality rates in bituminous coal mining per million tons mined will be found to be little more than 3.5 per cent higher than in 1941 and in anthracite mining 10.2 per cent, though fatalities in the industry as a whole have probably increased 17 per cent because of the 12½ per cent larger production. As they have increased in general industry 15 to 25 per cent or even more, the result is regarded with some satisfaction. Here, also fatalities and production in bootleg mines are overlooked. The U. S. Bureau of Mines inspection force, beginning in January 1942, is making inspections and reporting to operators, employees, union, and the public the good and bad features in the mines thus inspected.

At a mine of the Utilities Elkhorn Coal Co., at Oakwood, Va., where a fire occurred, air from the fire with its carbon monoxide was sucked back into the mine, threatening the fire fighters, and had to be carried away by a curtain, illustrating how easy it is to recirculate, through a mine, methane, carbon dioxide, carbon monoxide, hydrogen, fire and coal dust if the openings are too near each other as is too often the case. After a mine fire had been extinguished at the mine of the Alden Coal Co., Alden Station,

## XII. MINERAL INDUSTRIES

Pa., the operating concern, knowing that well warmed coal is likely to re-ignite spontaneously, cooled the coal by sliding cakes of dry ice through the seals, an entirely new development.

### MINING EQUIPMENT

In 1941, 1,985 mobile loaders, 109 scrapers, and 3,595 conveyors were in use in bituminous and lignite mines and, in 1942, were purchased 352 mobile loaders, 15 scrapers, and 1,167 conveyors. Anthracite mines in 1941 had 505 scrapers and mobile loaders (almost all of these were scrapers) and 2,432 conveyors. In 1942, only 14 scrapers were purchased in the anthracite region but 324 conveyors. The scraper was an early anthracite development, but the conveyor which came later has made more rapid progress. In 1940 there were 547 scrapers in use.

### MINING RESEARCH

Research at mine operations goes steadily along. The Pittsburgh Coal Co. has made an intensive study into the placement of sprays on cutting machines for allaying coal dust, making careful dust counts for this purpose. It has studied also the best manner of providing water for such spraying. The Lehigh Navigation Coal Co. is studying oil flotation of ultra-fine sizes of coal for the clarification of waste breaker water and the recovery of the coal for power generation, also the preparation of concrete aggregate by the burning of mine refuse, and the manufacture of rock wool for heat insulation from the same material. The American Mining Congress, through committees, is studying intensively the best means of mechanical loading, electrical operation, maintenance of mine roadways, etc.

Research has been crippled at colleges by the decrease in staffs and the loss of facilities, but the coal operators are beginning to evaluate research more highly as a means of promoting the progress of the industry and more money is being contributed to that end. The U. S. Bureau

of Mines has been shifting its projects from non-war purposes to those helpful to the war.

### ELIMINATION OF THE COKING TENDENCY

Many coals, when being stoked on underfeed stokers which push coal up from below, will form a solid cone of coke that stands up in the furnace and makes burning difficult and may do some physical damage. These "coke trees" as they are termed can be eliminated, it is found, by a preliminary preoxidation of the coal which destroys the coking tendency. At Pennsylvania State College, in a project sponsored by the Bituminous Coal Research, Inc., a vertical feed screw was placed under the grate, and the coal as it rose to the hopper was exposed to hot air which oxidized the coal to such an extent that it ceased to form coke trees. At Battelle Memorial Institute, agitation on a series of concentric grates broke up the coke as it was forming and before it developed its full strength. This also overcame the objection to a strong coking coal. Any coal can now be burned without trouble (and almost smokelessly) if the correct stoker is provided.

### SLAGGING STUDIES

It has been shown that much damage is done by the corrosive contact of coal slags with the wall and superheater tubes of a furnace. It is this action that has militated against the use of many coals. How much damage flying particles of ash and coal will do has been assumed to be dependent on the temperature at which coal and ash will slag in a reducing atmosphere. However, as the undesirable slagging described occurs in the oxidizing atmosphere above the grates, the temperature at which that occurs is the temperature to be considered, and many coals that melt at a low temperature in a reducing atmosphere will melt only at a much higher temperature in an oxidizing atmosphere. Studies by E. G. Bailey in these relations and in the effect of iron in the causation of slag-

## NON-FERROUS METALS

ging have done much to find opportunities for some coals having what is known as a "low-fusing ash," but which is not so low under certain circumstances.

### STEAM PRESSURE PULVERIZING

Another development has been the pulverizing of coal by steam pressure slowly built up within its pores by the steam in a cylinder. When the steam on the exterior of the coal is freed, the steam in the pores blows the coal to bits. If impurities are present the coal is less effectively pulverized, and then, by sizing, a cleaned product can be obtained. This work was performed by the Armour Research Foundation sponsored by the Peabody Coal Co.

Hydrogen has been obtained by L. H. Rayerson, University of Minnesota, from lignite by heating lignite char in a long vertical tube through which steam is passed. The carbon in the char releases the hydrogen in the steam forming hydrogen.

### EXPERIMENTAL

Anthracite has been found to be a desirable material to use in coke. Slow coking is essential or excessive pressures will ensue but apparently with anthracite that refuses to coke, the gas can be bleed away, reducing the pressure. The coke also is less shattered by cooling, for the swelling of the mass has been reduced, so larger coke can be obtained and in a greatly shortened time, which during the war is an item of much importance.

Experiments, at Purdue University, have shown that gas of a calorific value of 900 B.t.u. or more, can be made from coal by a hydrogenation process. Tests by the U. S. Bureau of Mines have shown that coals exist in Oklahoma, Arkansas, Utah, New Mexico, Colorado, and Wyoming that can be converted to metallurgical coke. Utah and Colorado have been making such coke for years, but the West in general has been short of such coals as are considered essential for iron-making.

## NON-FERROUS METALS

BY WALTER RENTON INGALLS  
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### GENERAL

Owing to the absence of many foreign statistics, the domestic suppression of some, and prohibition of publication of some that have not been suppressed, it is next to impossible to compose any industrial reviews of 1942 with the illumination of statistical tables. However, summaries that are sufficiently comprehensive may be offered. All the references to tons hereinafter mean tons of 2,000 lb. except as to tin which mean tons of 2,240 lb.

### ALUMINUM

The production of aluminum in the United States in 1941 was 307,500 tons. In 1942 it was much larger. The Aluminum Co. of America (Alcoa) increased the capacity of its several plants and built a new one at

Vancouver, Wash. The Reynolds Metals Co. produces at Lister, Ala. and at Longview, Wash. The program for aluminum production was for plant expansion to a scale of 1,000,000 tons of annual production, and if that rate was not fully attained at the end of 1942 the accomplishment was not far distant.

To a large extent the additional aluminum capacity was financed by the Defense Plant Corporation, a subsidiary of the Refunding Finance Corporation. According to Charles B. Henderson, chairman of RFC, Oct. 26, 1942, the DPC commitments had been \$667,000,000, providing for about 620,000 tons of aluminum capacity.

In October, 1941, Alcoa reduced its price for ingot aluminum to 15c. per pound, which was the prevailing price during 1942. Early in December,



## XII. MINERAL INDUSTRIES

1942, a price of 14c. per pound was announced for aluminum in 50 lb. pigs, the price for ingot remaining unchanged.

The greatest demand for aluminum has been in connection with airplane construction. Some of its prior uses, *e.g.*, as the oxidizing agent in the refining of steel, have necessarily continued. Some of its other uses, as for household ware, for electric transmission, etc., have been proscribed for the duration of the war.

The action of the Department of Justice against Alcoa for alleged violations of the Anti-Trust Law was decided in the Federal District Court of New York adversely to the Government on each of its charges. The Government appealed to the Supreme Court. On Nov. 22, 1942, the Supreme Court advised that there was not a quorum of justices qualified to sit in the case, nor would there be when one existing vacancy were filled. Alcoa then requested the Supreme Court to dismiss the Government's appeal.

### COPPER

The military demand for copper became very large, especially for ammunition brass, rotating bands for projectiles, copper and brass required in shipbuilding, wire and cable required by the Signal Corps of the Army. Besides these major uses minor quantities are required in trucks, tanks, and airplanes. Much copper was also exported under lend-lease provisions. During 1942 quantity production of cartridge cases of steel was instituted, also of bullet cups of steel coated with a skin of gilding metal instead of pure gilding metal. These substitutions modified the demand for copper. Nevertheless, the demand for supplies was pressed to the utmost.

World's production of copper in 1939 was 2,385,000 tons. Since then there has been an annual increase but not to any stupendous figure, for the reason that the mines had been nearly fully extended, especially those of the United States. A remarkable feature of 1941-42 is that

in copper production there has been scarcely any new capitalization beyond what had been instituted pre-war. Our domestic production was 735,000 tons in 1939, 983,000 tons in 1941, and probably about 1,100,000 tons in 1942. The chief addition to production in 1942 was from the new Morenci mine of Phelps Dodge Co. Production everywhere was handicapped by shortage of labor because of the military draft, and late in the year there was an effort to correct that by releasing miners on furlough.

The American Bureau of Metal Statistics reported supply of copper in 1941 from domestic mines, imported from foreign mines, plus copper reclaimed from demolition, at 2,125,000 tons. The supply in 1942 was only moderately more than that. Apart from the increase in mine production, about 65,000 tons were made available by liquidating stocks in process with secondary manufacturers. On the other hand supplies from demolition tended to decrease, for the reason that neglected accumulations can be liquidated only once; and what is more important is that the telephone and light and power companies when restricted as to new supply are bound to delay the demolition of old plant and consequently their return of scrap.

Civilian consumption of copper was practically annulled by WPB. Motor vehicles, electric refrigerators, and many other copper-consuming manufactures were prohibited. Rural electrification was stopped. The use of copper in housebuilding was stopped except as to electrical wiring. The telephone, light and power, and railway companies were allowed limited supplies, for without their services not even munitioning could proceed.

The price for copper during 1942 was 12c. delivered in Connecticut or equivalent points, corresponding with 11.775c. *ex* refineries around New York harbor. This was a ceiling price established by OPA. In the hope of increasing domestic production a premium price of 17c., Connecticut was set for the stimulation of production from certain mines in excess of

## NON-FERROUS METALS

quotas. This does not appear to have added much to domestic supply.

### LEAD

World's production of lead in 1939 was 1,900,000 tons, whereof 420,000 by mines in the United States. The production in 1941 was not much more than in 1939. Increases in this country and in Australia were partially offset by decreases elsewhere. Probably the grand total for 1942 was not very different from 1941. The Germans acquired an important additional lead supply by their conquest of Yugoslavia. The Japanese by their conquest of Burma subtracted a supply of nearly 90,000 tons a year, without as yet being able to enjoy it themselves.

The production of the lead mines in the United States increased moderately in 1942. There was also a small addition in the supplies from foreign ore brought hither for smelting and refining. In addition to these supplies large quantities of refined lead from Mexico and Australia, besides a little from Canada have been imported, these importations having been for the account of the Metals Reserve Co. of the RFC.

Of all the non-ferrous metals the position of lead has been the easiest. There have not had to be any restrictions as to consumption, except as to tin-lead foil, and indeed lead has been invited into use as a substitute for other metals. In some respects these substitutions will be enduring rather than makeshifts. Even so there has been a large accumulation of stock of refined lead in the hands of MRC.

The lead producers of this country have not been led into any increase in industrial capitalization; nor into any request for assistance by governmental finances.

OPA, Jan. 13, 1942, raised the ceiling price for lead from 5.85c. New York, to 6.5c., with the usual differentials for corroding lead and other superior grades. At about the same time MRC offered to pay 9.25c. per lb., for 2½ years from Feb. 1, for

lead in excess of quotas based on production in 1941.

### MAGNESIUM

In 1940 the domestic production of magnesium was 6,250 tons. In 1941 it was 16,500 tons; in 1942 it was very much larger. Plants under construction are estimated to provide for an annual production of 250,000 tons. On Aug. 1, 1942 some of the producers were requested to halt their construction work, and at the end of the year it looked as if the eventual producing capacity would be about 200,000 tons. According to Charles B. Henderson, chairman of RFC, Oct. 26, 1942, the Defense Plant Corporation had committed itself to financing magnesium plants to the extent of \$370,000,000.

Up to the close of the year the chief production has come from the electrolytic process as applied by the Dow Chemical Co. and in a different way by Basic Magnesium, Inc., which has built a plant of 56,000 tons capacity at Las Vegas, Nev., the largest unit in the world. Production at this plant began Aug. 31, 1942. Later in the year management of this plant was undertaken by the Anaconda Copper Mining Co. on a fee basis.

Magnesium is used in powder form for flares, tracer bullets, and in incendiary bombs. Its major uses are for alloys, especially magnesium-aluminum. As a result of the war and the shortage of magnesium, commercial applications ceased, and the chief use of the alloys was for airplane motors and frames.

### TIN

World's production of tin in 1939 (the last year of complete accounting) was 184,000 long tons, of which 125,000 long tons were derived from the Orient. World's production in 1940 was about 238,000 tons, and in 1941 probably about the same.

The United States has always been the principal consumer of tin. In 1941 our consumption was 100,000 tons; 48,000 tons was for tinplate, of

## XII. MINERAL INDUSTRIES

which 40,000 tons was for the manufacture of cans.

The production of tin in 1942 is unknown except as to a few countries. Early in the year Burma, Indo-China, Malaya, Siam, and Netherlands Indies were conquered by the Japanese. The tin-producing district of China, if not conquered, was shut off from the outside world. Of the remaining tin-producing countries of importance: Bolivia produced about 42,000 tons in 1941, and probably a little less in 1942; Nigeria, 16,000 in 1941 with increase in 1942; Belgian Congo, 14,000 in 1941 and perhaps 20,000 in 1942.

The United States has no tin mines of importance, and shortage of tin supply was foreseen. As a precaution, stocks of tin were accumulated here by the Metals Reserve Co. and other governmental agencies, and also by manufacturing consumers, so that at the end of 1941 the total stocks, visible and invisible, were large, being estimated as between 110,000 and 150,000 tons.

In 1941, with government financing, a smeltery with capacity for 52,000 tons of pig tin per annum was laid out at Texas City, Tex., and a contract for ore supply was made by MRC with the Bolivian producers. This smeltery began production during 1942.

On the other hand WPB instituted drastic measures for curtailing domestic tin consumption. Among these the more important were prohibiting the use of tin cans for non-essential purposes, and so contracting the manufacture of tinplate; reducing the coating of tinplate from 1.5 per cent to 1.25 per cent; practically prohibiting the use of collapsible tubes of tin alloy, also the use of tin-foil and tin-lead foil; and numerous restrictions otherwise.

Other measures that are in progress are the introduction of electrolytic tinplate, which will reduce the tin

coating from 1.25 per cent by dipping to 0.5 per cent. Another measure that has been instituted is the collection, countrywide, of old tins for detinning, but this has not yet become an important reclamation in terms of tons.

### ZINC

At the end of 1941 the zinc smelting capacity of the United States was 950,000 tons, or about 79,000 tons per month, which rate was actually attained in December, 1941. Additional capacity then under construction or projected was about 96,000 tons. At the end of 1942 all of this has been brought in or soon will be. This affords a sufficiently good idea of what our domestic spelter production was in 1942. Our own mines are incapable of alimentering such a large production and it is necessary to import zinc ores from Newfoundland, Mexico, and South America on a large scale.

Additional zinc smelting capacity has been financed to some extent with governmental assistance, but broadly speaking there has not been a great increase in industrial capitalization in this industry.

The demand for zinc has been urgent. For ammunition, brass zinc is a partner of copper in the ratios of 30:70 and 10:90. Substitution of steel will have the same effect on zinc as on copper. Likewise prohibition of the civilian use of brass affected copper and zinc in the same way.

OPA in the latter part of 1941 raised the base price for zinc from 7.25c. to 8.25c. The latter price prevailed during 1942, except that the Metals Reserve Co. agreed to pay a premium of 2.75c. for over-quota production for a period of 2½ years from Feb. 1, 1942. Over-quota meant new production out of ore deposits that could not be worked at a profit otherwise.

## THE SALVAGE CAMPAIGN

### THE SALVAGE CAMPAIGN

By C. P. TYLER

CONSERVATION DIVISION, WAR PRODUCTION BOARD

#### IRON AND STEEL

The primary salvage need for 1942 was iron and steel scrap and the major activity of the Conservation Division, War Production Board, was to increase the flow of this vital war material. During the early months of 1942, there were approximately 40 to 45 steel-making furnaces down for lack of scrap. As of March 2, the first official report of the American Iron and Steel Institute indicated that there were 20 furnaces still down because of a shortage of scrap. However, during the period from June through November, only one furnace has been down for a period of one week because of a scrap shortage and no furnace has been down since July 27 for this reason.

This improvement has all been accomplished in the face of the largest consumption of scrap iron and steel this country or any other country has ever known. Yet in spite of this record consumption, sufficient iron and steel scrap was not only collected to sustain peak steel operations, but consumers added approximately 1,250,000 net tons of purchased scrap to their inventories from the first of the year to October. The trend indicated that steel mills and foundries would end the year with sufficient scrap on hand to carry them through the winter months, during which period the flow of scrap to the mills usually diminishes.

#### NEWSPAPER COOPERATION

Probably 70 per cent of all purchased iron and steel scrap which moves to steel mills and other consumers comes from industrial plants scattered throughout the country. Recognizing the importance of the industrial phase of scrap collections, complete cooperation was obtained during the fall from the newspaper publishers of the country, who threw

their weight behind a drive to collect dormant scrap in industrial plants. Cooperating in this program, which got underway early in October, were 3,500 volunteer salesmen from industry who contacted 70,000 business executives for the purpose of moving the maximum amount of available scrap into the normal channels of trade.

#### MOVEMENT OF SCRAP METAL

In order to arrange for the movement of scrap metal where salvage had been impeded by legal, financial, and other difficulties, the Special Projects Salvage Branch of the Conservation Division was formed in March. By the middle of November, this Branch had arranged for the movement of 2,117,000 tons of scrap metal.

#### LOCAL SALVAGE COMMITTEES

In addition to these sources of scrap, a considerable tonnage of iron and steel scrap comes from farms and homes scattered throughout the country. In order to tap this source of supply 13,000 local salvage committees were organized in all parts of the country, involving well over 300,000 workers on a volunteer basis. Various programs were inaugurated in connection with this farm and home scrap, the most successful of which was undoubtedly the Newspaper Scrap Metal Drive, which was undertaken by the newspapers of the country at the request of the War Production Board. In many instances the newspapers assumed the initiative and leadership in the collection drive, but inevitably worked closely with the local salvage committees in the various cities, towns, and counties.

#### MOVING RURAL SCRAP

In the farm areas of the country, farm implement companies have been



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of considerable aid in moving rural scrap into dealers' yards. The various farm implement companies made available the services of their various implement dealers for the actual movement of scrap material. Also, the 30,000,000 school children of the nation were an active force during 1942 in the collecting of farm and home scrap. Figures to date indicate that they alone accounted for approximately 1,500,000 tons of scrap, or around 100 pounds per pupil.

### OTHER ORGANIZATIONS IN THE DRIVE

Valuable assistance has also been given to the local salvage committees in connection with the iron and steel scrap program by such organizations as the American Industries Salvage Committee, the Automotive Safety Foundation, the American Legion, and hundreds of other national groups. The American Legion has been particularly active in the "Jalopy-Round-Up" drive which was inaugurated to replenish the dwindling inventories of automobile graveyards.

As a result of the coordinated activities of all these cooperating organizations, and principally the newspapers of the country, a Gallup Poll survey indicated that four out of every five American families have either given their scrap to the war effort or had no scrap to give. Of the 21 per cent who stated they still had some scrap they could give to the war effort, more than half had already been contacted by their local committees.

### COPPER SCRAP

No accurate statistics are available on the amount of various non-ferrous metals collected during 1942, but it is significant to note in the case of copper, which is now one of our most critical items, that there was recovered from copper scrap during the first nine months of 1942, more copper than was obtained in all of 1941 from copper scrap. The total amount of copper recovered from copper scrap through September of 1942 amounted to 792,038 net tons as compared with 726,396 tons for the entire year 1941.

### TIN COLLECTIONS

Tin has become an increasingly critical item, and two specific programs were inaugurated in 1942 designed to increase the visible supply of this material. The collapsible tubes program (shaving cream and tooth paste tubes) was initiated in April, and it is estimated that well over half of all empty tooth paste and shaving cream tubes are now being salvaged for their tin content. In October alone close to 80 tons of tin were obtained from collapsible tubes. In addition, a tin can program is now underway in all parts of the country, and the collections of tin cans have been increasing monthly. Detinners reported receiving 12,000 tons of cans in October. It is expected that when the new detinning facilities are available, as much as 500,000 tons of iron and steel scrap and over 5,000 tons of tin per year will be obtained from tin cans saved by housewives, hotels, restaurants, and other users.

## PERIODICAL PUBLICATIONS

*American Gas Journal*

53 Park Place, New York City.

*American Mineralogist*

U. S. Geological Survey, Washington, D. C.

*Chemical and Metallurgical Engineering*

330 West 42nd Street, New York City.

*Coal Age*

330 West 42nd Street, New York City.

*Engineering and Mining Journal*

330 West 42nd Street, New York City.

*Fueloil Journal*

420 Madison Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

<i>Iron Age</i> 100 East 42nd Street, New York City.	<i>Natural Gas</i> 4 West Seventh Street, Cincinnati, O.
<i>Metal Industry</i> 116 John Street, New York City.	<i>Oil and Gas Journal</i> 114 West Second Street, Tulsa, Okla.
<i>Metal Progress</i> 7301 Euclid Ave., Cleveland, O.	<i>Oil Weekly</i> 3301 Buffalo Drive, Houston, Tex.
<i>Metals and Alloys</i> 330 West 42nd Street, New York City.	<i>Petroleum Engineer</i> 701 Allen Building, Dallas, Tex.
<i>Mining and Metallurgy</i> 29 West 39th Street, New York City.	<i>Petroleum World</i> Bendix Building, Los Angeles, Calif.
<i>National Petroleum News</i> 1213 West Third Street, Cleveland, O.	<i>Steel Facts</i> 350 Fifth Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 1852, Tulsa, Okla.	AMERICAN MINING CONGRESS, 841 Munsey Bldg., Washington, D. C.
AMERICAN GAS ASSN., 420 Lexington Ave., New York City.	AMERICAN PETROLEUM INDUSTRIES COMMITTEE, 50 W. 50th St., New York City.
AMERICAN INSTITUTE OF MINING & METALLURGICAL ENGINEERS, 29 W. 39th St., New York City.	AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.	AMERICAN ZINC INSTITUTE, 60 E. 42nd St., New York City.

## DIVISION XIII

### MANUFACTURES AND TRANSPORTATION

#### CONDITIONS IN MANUFACTURING

By L. SETH SCHNITMAN  
CONSULTING ECONOMIST

##### WAR DOMINATION OF INDUSTRIAL PRODUCTION

Like the military, American industry went to war intensively during 1942. Within the year, durable goods manufacturing facilities, somewhat in the futuristic manner, were all but completely converted to the output of lethal implements for total warfare. The productive capacity for consumers' non-durable goods, as civilians came to know, likewise was diverted increasingly to the job of war—to the task of feeding, clothing, transporting, and comforting our soldiers, sailors and marines, and those of our Allies.

Thus, if our engines of production may now be said to have been sparked by the sneak attack on Pearl Harbor, then the opening of the Second Front 11 months later threw them into high gear. It was in the electrifying accomplishments on the production front, where record after record was shattered, that high hopes became rooted—hopes of complete and unequivocal victory in this three-dimensional global war; hopes that when the shooting is over our productive plant can somehow be made to whirr again at rates to match those which always hitherto have been phenomena peculiarly characteristic of war; hopes that want and poverty, finally and forever, may be banished from the civilized world.

Now, there would seem to be no sound doubts as to the ultimate outcome of the war. How difficult, however, may be the realization of the

secondary hopes and, by the same token, how sweet their rewards, are best delineated by the index of industrial production (manufacturing and mining) of the Board of Governors of the Federal Reserve System. For 1942, when industrial employment and overall purchasing power concurrently reached unparalleled levels, this index showed that together our mines and factories produced 81 per cent more goods than, on the average, they turned out annually during the base period, 1935-1939. Other bench-marks should serve to accent this performance, should serve to indicate what is involved in the translation of hopes into realities in the post-war reconstruction period: (1) industrial output, as already defined, in 1942 was 16 per cent greater than in 1941, the previous peak year; (2) 60 per cent larger than in 1937, the year of next highest production in all our history; (3) something more than three times as high as the physical output in the depression year 1932, and; (4) almost 65 per cent greater than the production volume in the year 1929, which not so long ago stood unchallenged as America's hallmark of prosperity.

For manufacturing output alone the 1942 results were even more striking. Having recorded an index of 200, the year's factory production was exactly twice as great as the average for the base period 1935-1939; almost 25 per cent greater than in 1941; 77 per cent greater than in 1937; not far below four times as

## CONDITIONS IN MANUFACTURING

much as in 1932; and virtually twice the volume turned out by manufacturers in the boom year, 1929.

### DURABLE MANUFACTURES

It was, however, in the durable goods industries, apart from other manufactures, that the stature of our production effort for war was most sharply outlined; it will be in our heavy manufacturing industries, too, when peace comes, that the enigma of reconversion so perplexingly challenging will be found.

The index of durable goods manufacturing production registered a reading of 250 for 1942, a gain of 150 per cent over the average for the base period, 1935-1939. Contrasted with 1941, this index scored an increase of about 30 per cent; compared with 1937, the index of durable goods production for 1942 was slightly more than twice as high; contrasted with 1932, six times as large; it was almost twice as great as in 1929.

Further than that, the December 1942 productive rate of durable goods manufacture inclusive of such basic industries as iron and steel, lumber, machinery, non-ferrous metals, stone, clay and glass products, aircraft, shipbuilding, was about 180 per cent greater than the average for the base period and about 28 per cent greater than in December 1941. It is of more than passing interest to note that, as 1942 closed, upwards of 55 per cent of the production of all our factories went to serve the needs of war and that munitions production alone was almost five times as heavy in December 1942 as in November 1941, just prior to the Pearl Harbor attack.

### NON-DURABLE MANUFACTURES

The hectic activity in the production of durable goods and of munitions of war was accompanied by only modest expansion in the output of consumable or non-durable manufactures, ranging from bread to canned foods, from tobacco to textile fabrics, from paper goods to 100-octane gasoline.

Taking the 1935-1939 average as a base for measurement, the 1942 volume of production of non-durable manufactures recorded an index of 141. This represented an advance, to be sure, of 41 per cent over the average annual output in the base period. Yet, the change from 1941, upward though it was, amounted to less than 5 per cent.

Though the 1942 production of non-durable manufactures was about one-third higher than in 1937, twice as great as in 1932, and about 52 per cent larger than in 1929, there is large and accumulating significance in the widening contrasts to be found in the rates of change as between durable and non-durable goods production. True, the tightening effects of priorities, allocations, and rationing have accentuated the contrasts. These considerations, nonetheless, serve only to intensify the longer-range implications to be gleaned from the following table covering significant years of industrial famine and feast during the last quarter century:

### PRODUCTION INDEXES FOR DURABLE AND NON-DURABLE MANUFACTURES \*

(1935-1939 averages = 100)

Year	Durable	Non-durable	Ratio:
			Durable Non-durable
1919	84	62	1.35
1920	93	60	1.55
1921	53	57	.93
1929	132	93	1.42
1932	41	70	.59
1933	54	79	.68
1937	122	106	1.15
1939	109	108	1.01
1940	138	113	1.22
1941	193	135	1.43
1942	250	141	1.77

\* With ratios computed by the author for selected specified years. Basic data from Board of Governors of Federal Reserve System.

As the reader who will run may see from the above table, the ratio between durable and non-durable goods production has reached a point never before witnessed in this generation. Moreover, having pushed almost up to 2, or twice unity by the 1942 year-end, the time has come to



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take bearings anew lest an industrial cretin be born out of the transcending maladjustments which this ratio mirrors.

One may not be too far afield in seeing also in this growing industrial dislocation the relative proximity of the war's successful end, but if that connotation be read into the ratio, it should be doubly clear that the need for decisive action painlessly to reset our massive war machine to the tempo of a peacetime industrial economy is immeasurably accented.

#### FOOD AND TOBACCO PRODUCTS

"Bread and the games" took on a new meaning for us in 1942. In this war it is taking over a ton of food per year for every man in the armed forces. Thus, though the output of manufactured foods was highest in history, as the year advanced a constantly diminishing proportion was available for civilians despite peak employment at unparalleled levels of purchasing power. Under the impetus of the demands of our military and those of our Allies provided by lend-lease, food processing factories manufactured on average 41 per cent more foods of every description than in the base period, 1935-1939. Not only that, the 1942 output of manufactured foods was something over 10 per cent greater than in 1941; about 37 per cent greater than in 1937; about 79 per cent greater than in the depression year 1932; and virtually 40 per cent greater than in the year of "the full dinner pail," 1929.

For example, meat-packing where demand customarily is relatively inelastic, to illustrate what has occurred in but one segment of our food manufacturing industry, was 47 per cent greater in 1942 than the average for the five-year period, 1935-1939; 14 per cent greater than in 1941; 56 per cent greater than in 1937; 36 per cent greater than in 1932; and 28 per cent greater than in 1929.

One by one many canned delectables disappeared from the grocer's shelf, with many more destined to go the same way for the duration.

All the same our civilian population by a wide margin remained the best fed of any nation on earth and this despite having to get accustomed to new packagings and new regimens of diet, involving such diverse far-flung considerations as substitutions of glass jars for cans to conserve dwindling supplies of tin and even rubber, of increased production of dehydrated foods, of enlarged production of quick-frozen foods, of increased output of dried milk and dried and frozen eggs, of wider uses of soy beans and peanut products. Without the water, dehydrated vegetables, eggs, milk, fruits, and even meats, weigh less, keep better, and incidentally require less of the still too limited shipping space.

The food processing industries went to war in still another way. In countless instances, manufacturers diverted portions of their plants or converted all their facilities to the production of arms and ammunition, ranging from machine gun mounts to bombs and shells, from gun carriages to machinery and aircraft parts.

War had its casualties, nevertheless. Among these may be listed the manufacturers of confections, chewing gums, and soft drinks, in large part due to sugar shortages, lack of adequate supplies of gum bases, scarcities in metal bottle closures, and tightness in manpower.

Tax-paid withdrawals of cigarettes, indicative of consumption, scored another record in 1942. In fact, consumption of all tobacco products considered together scaled all earlier performances, having recorded an advance of 31 per cent over the average for the five-year period, 1935-1939, and of about 10 per cent over the volume in 1941, the previous peak year. To the war probably goes much of the credit for this. To the war, too, though perhaps more significant for their future implications, goes much of the credit for the almost incredible accomplishments in tobacco research. From the lowly test-tube, soap has been produced from tobacco, dark but of high cleansing value; insecticides, waxes, fats and

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resins, furfural—a product used in the manufacture of plastics and solvents—likewise are emerging from an experimental status. At the same time the laboratory has brought forth a fibre board, manufactured from low-grade tobacco, which can be sawed and nailed, drilled and sanded to a smooth finish.

### TEXTILES, SHOES, APPAREL

The output of textiles and their products in 1942 was only slightly higher than in the previous year, the gain being less than 3 per cent, limited chiefly because of lack of manpower and machine capacity. Still, the index for the year at 155 (1935-1939 = 100) was the highest on record and contrasted favorably with 106 for 1937, with 71 for 1932, and with 94 for 1929. Cotton goods production alone reached an estimated total of 12,500,000,000 square yards for an increase of virtually 1,000,000,000 yards over the 1941 output. As of the 1942 year-end not far from 90 per cent of the rate of cotton goods production was against priority orders, both for the military, lend-lease needs, and essential civilian uses, ranging from sheeting to cotton ducks; from drills and twills for uniforms to poplins and print-cloths for raincoats and bandoleers; from bag goods for packing purposes, due to cessation of burlap imports from India, to men's and women's work clothing fabrics.

Rayon, in 1942, came into its own, not so much because it scored a new high in production in its record of 625,000,000 pounds, but because it witnessed a new diffusion of demand as a result of wartime dislocations. The 1942 output was only about 9 per cent higher than the volume of 573,000,000 pounds produced in 1941 though it was almost one-third greater than the production of 471,000,000 pounds recorded in 1940. These facts, however, not alone shroud the widened demands and uses for rayon which have come from direct military requirements; they also conceal its broadened uses in essential civilian clothing needs. This latter consideration is best indicated

by the fact that since 1940 the output of rayon staple fiber (as distinguished from continuous filament yarn) has virtually doubled. It is from the staple fiber that fabrics for men's and women's wear are woven and it is likewise from the fiber that fabrics for blankets, tablecloths, hosiery, draperies and upholstery materials, sweaters, towels, even rugs and carpets are woven.

Rayon went to war in the form of self-sealing gasoline tanks, aerial cargo delivery parachutes, electric wiring insulations in bombers, submarines, and tanks, heavy duty airplane tires, parachute shroud cords and tapes, flare parachutes for night-raiding excursions, and in a host of other forms.

Of the knitted and woven goods the first to be cut off from civilian uses were the silks and the nylons much to the distaste of women. By the year-end, if they were able to find them at all, it was only on a search after the fashion of the needle in the haystack.

Of all the major textile fabrics only wool failed in 1942 to scale the production figure of the previous year, and this by a margin of less than 5 per cent. This was more a question of getting enough raw wool than of increasing manufacturing output. And though restrictions were early invoked on the allowable production of woollen goods for civilian uses these were instituted more as a precaution to assure adequate supplies and stockpiles for the military than because of any serious shortage of the raw fiber. In any event the civilian might as well resign himself to the idea that all-wool garments for the balance of the duration are going to be increasingly difficult to obtain; particularly after the still relatively plentiful supplies in the hands of wholesalers, jobbers and retailers become exhausted.

Shoe production, like the output of wool fabrics, did not quite reach in 1942 the volume recorded for 1941, the deficiency in this instance having amounted likewise to less than 5 per cent. Nevertheless, shoe production

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totaling some 462,000,000 pairs against 483,000,000 in 1941, showed an 18 per cent gain over the average annual output in the years 1935-1939; a gain of almost 16 per cent over the total for 1937; and a gain of virtually one-third over the figure for 1929. The leather tanning industry is likely to run at approximate capacity in 1943. Because of tight restrictions on the use of leather, a further contraction in styles, and an accented need for more leather products on the part of our Allies, shoe output is likely to show further contraction.

#### PETROLEUM AND REFINERY PRODUCTS

Supplying to the United Nations the fuel oil, lubricants, and other refinery products vital for war and needed to meet our own military and essential civilian uses, the petroleum industry came through despite disturbing obstacles.

In large measure due to drastic gasoline rationing on the Eastern Seaboard and later the nation over, the output of refined petroleum products in 1942 suffered an overall shrinkage of about 7 per cent from 1941. Even so the volume of production was some 16 per cent greater than the annual average in the five-year period, 1935-1939; about 9 per cent greater than in 1937; about 60 per cent greater than in 1932; and about 30 per cent greater than in 1929. In its unexampled production of high octane aviation gasoline, petroleum refineries made possible our rapidly mounting air strength on the battlefronts.

For the first time in perhaps 20 years a long-standing tendency in the output of crude petroleum towards so-called overproduction, was reversed in 1942. If the war had anything to do with this it was perhaps more by way of accent than by causal relationship; always in the past the discovery of new oil fields tended to upset balanced relationships between supplies and demand. Before fields are discovered wells must be drilled, and drillings in 1942, covering more

than 18,000 wells, represented a decline of about 38 per cent from the total of about 29,700 drilled in 1941. This cut-back in new drilling had much to do with the decline in the output of crude petroleum to about 1,385,000,000 barrels in 1942 from the record volume of more than 1,400,000,000 barrels in 1941.

#### ELECTRIC UTILITIES

War needs for power were well met by the electric utility companies. Despite shortages in supplies and materials, manpower tightness, and other equally disturbing problems, the industry manufactured some 12 per cent more electric power than in 1941, the previous peak year of production. The 1942 production of electric power purchasable by the public of about 188,000,000,000 kilowatt hours compared with about 168,000,000,000 kilowatt hours in 1941. Of the 1942 total production some 88,000,000,000 kilowatt hours or 47 per cent represented the amount purchased by industry; in 1941 only about 45 per cent of the power total was sold to industrial users.

During 1942, the industry expended about \$480,000,000 for new construction and facilities as against about \$590,000,000 in 1941; the decline was due entirely to restrictions on the supply and use of materials. With a net addition in generating capacity of some 3,300,000 kilowatts coming in during 1943, there should be no cause for concern as to the availability of power to meet the stepped-up industrial production schedules. With this increase, the net rated installed capacity of all generating stations will exceed 50,500,000 kilowatts.

#### RAILROADS AND RAILROAD EQUIPMENT

Measured both by the records of freight and passengers moved the railroads broke all records in 1942. Having transported about 630,000,000 ton-miles of freight for an increase of almost one-third over the 1941 total, the industry, in its spectacular rebirth, appeared ready to show even further integration to the



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war effort during 1943 because of promised new and needed equipment. The same appears likely, too, in the case of the passenger end of the business, which in 1942, in recording a volume of about 53,000,000,000 passenger-miles, not only exceeded the total for 1941 by 80 per cent but even broke by 13 per cent the previous high figure recorded in 1920.

Though the railroads may be expected to get additional new equipment and supplies—locomotives, freight cars, passenger cars, even rails—it should be indicated that by and large the railroad equipment industry in 1942 was almost completely converted to a war footing. Cars and locomotives will come in 1943 from their production lines, but shells, ordnance, gun carriages, catapults, fuses and ship parts, too, will roll off in astoundingly increasing quantities.

### IRON AND STEEL

Not so long ago men were wondering when, if ever, our basic steel industry would be able fully to employ its capacity. For all practical purposes the year 1942 provided the answer in a measure fulsome to the Axis powers. Producing a little more than 86,000,000 net tons of ingots and castings, the industry not only scored an increase of about 4 per cent over 1941 for a new high record but at the year-end was operating at a rate virtually up to its then enlarged capacity of 92,000,000 tons per year.

By mid-1943, steel plant capacity should attain the gargantuan total of 96,000,000 tons a year. Despite threatening shortages of scrap and tightening restrictive measures, it is all but certain that our productive rate in the coming months will pace this enlarging capacity neck-and-neck, for steel is the backbone of production for total war. How enlarged has become its significance in modern warfare, is mirrored best by the fact that the 1942 output exceeded by 70 per cent the maximum production in any year of the First World War.

Among the other more significant

developments in 1942 were: (1) development of new alloys forced by the critical shortages primarily in nickel, chromium, and cobalt; (2) conversion of continuous strip mills, which in peacetime had produced thin sheets for use in auto bodies and cans, to plate manufacture to meet the diverse needs for ship construction and armaments; and (3) development of many new processes and products, such as copper and other clad-steels, and others which still must be treated as military secrets.

### NON-FERROUS METALS

Measured by the index of the Board of Governors of the Federal Reserve System, the output of non-ferrous metals showed a gain of only about 2 per cent over the record volume produced in 1941. The 1942 demand for copper probably totaled around 3,000,000 tons, by a wide margin greater than anything ever witnessed before, to supply which involved sizable imports, stepped-up operations among established producers, opening of new or distinctly marginal properties, and a concerted attack on the problems of reclamation and recovery from scrap.

Lead production, both from domestic and imported ores, showed only slight change from 1941. The year's supply amounted to about 1,305,000 tons, of which roughly 350,000 tons resulted from scrap reclamation. Relatively, supplies of lead were easily available because its sources were within continental North America. Not quite so with zinc, where the supply situation was much tighter, due primarily to a lack of adequate refining capacity and to appalling shortages in the higher grade concentrates such as are needed by producers of brass and manganese bronze and by the die-casting industry.

Lusty infant that it has been in recent years, aluminum gained further stature in 1942, probably recording a production total not far from 950,000,000 pounds or more than four times the total for 1940. In terms of percentage growth, magnesium staged an even more spectacular perform-



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ance, its 1942 production being no less than 30 times that for 1940.

#### THE AUTOMOBILE INDUSTRY

Except for military ambulances, trucks of various constructions including the new amphibians, jeeps, special auto bodies, and essential auto replacement parts, the automobile industry may be said to have closed down for the duration. Yet this was a different sort of shutdown, the sign on its door reading "Gone to War." In truth, the nation's No. 1 mass production industry is already back at the old stand in new dress with a production record that counted, as by magic, its output value in 1942, this time of war goods, at around \$5,000,000,000. This was an increase of at least 10 per cent above the worth of the industry's civilian production in 1941.

Moreover, as 1943 opened, the assembly lines, from which only a scant year or so before were rolling cars and commercial trucks in the hundreds of thousands of units per month, were making a contribution to the war effort at an annual rate not far below \$7,500,000,000. Almost certainly, unless the war's end be closer than observers dare believe, this great industry will produce around \$9,500,000,000 worth of war goods in 1943. Should this happen, it would mean about \$5,000,000,000 in airplanes, aircraft engines and parts, airframes and airframe sub-assemblies, propellers and miscellaneous aircraft parts. The remaining \$4,500,000,000 would likely divide as follows: military vehicles, inclusive of jeeps, trucks, self-propelling artillery, and the like, about 40 per cent; tanks and tank parts about 30 per cent; ordnance, ammunition, and miscellaneous war essentials inclusive of artillery and small arms, about 30 per cent. With the coming of peace the industry, which has provided an object lesson in plant conversion, may be counted upon to outdo itself in the speed of its reconversion of plant for the building of better and more economical passenger cars and trucks

and commercial and passenger planes for the speeded age ahead.

#### AIRCRAFT, SHIPBUILDING, AND MUNITIONS

If there was any doubt that abundant airpower was elemental to military success in modern warfare, the results on the world's battlefronts in 1942 should have served to dispel it. Not until aircraft production had begun to reach its stride and was made to mesh with our intensive and exhaustive training of the hundreds of thousands of pilots, bombardiers, navigators, mechanics, radio technicians, ground men and women, was the turn of the tide of battle made possible as became apparent in the late days of 1942.

The 1942 production of military aircraft of all descriptions, including trainers, fighters, bombers, fortresses, scouting planes, troop-carrying transports, torpedo planes and cargo planes, totaled about 49,000 more planes, civilian and military, than were produced in all the years since the end of the First World War. More important even than this, plane production early in 1943 was already at an annual rate of almost 70,000 with all indications pointing to well above 100,000 for the year's final total.

It will take more than planes alone to win the war. Ships, too, are needed, and of these many were produced in 1942 while many more were being built. Though the 1942 output of planes was about double the total output of all planes in 1941, the increase in the tonnage and number of new merchant vessels was even more spectacular. The tonnages and number of new naval vessels of every description that left the ways in 1942 were likewise astounding by any former standards of comparison. Merchant bottoms of all descriptions floated during the year amounted to 8,200,000 deadweight tons, five times as large as in 1941; by the outset of 1943 the rate of output had already attained an annual rate of about 12,000,000 tons with every promise that the full year would show an aggregate of at least 15,000,000 tons.

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Munitions output in the aggregate—ships, planes, tanks, guns, ammunition, and all field equipment—was at the end of 1942 at a rate almost five times as great as a year earlier; ordnance alone in 1942 was more than six times the total of 1941. Naval ships produced involved tonnages not much below three times the volume provided by the 1941 output. If ten supernatural plagues progressively were required in biblical days to secure freedom, we have built with the combined genius and energies of our people in a single year plagues a thousand-fold more deadly.

### BUILDING CONSTRUCTION AND MATERIALS

It is one thing to have implements for winning the war, but another thing to have the plant to insure free and steady flow and continuity of replacement. This was provided in full measure in 1942.

In that year, practically speaking, to provide the varied and sundry needed facilities from war housing to highways and factories, the construction industry was entirely converted to a war footing. This was done increasingly by the employment of limitation orders, priority rulings, and allocations respecting critical materials. In record-breaking time, if not, too, in record-breaking volume, the industry turned out more mass-housing, more vast factory buildings, more cantonments and shipyards and airports, than may ever be needed to insure continuity and acceleration in the drive to victory.

In all, the construction industry undertook operations in 1942 which involved an expenditure of around \$13,000,000,000, portending in its very size a material decline for 1943, perhaps as great as 50 per cent, due to a likely shift in emphasis in the war effort as it gains speed in high gear. The scarcity of materials and manpower, too, will doubtless bring it about, for now it is reasonably clear that with a great proportion of the needed war plant already built or being built, diversions of materials and manpower may safely be made to

other pressing wartime needs. This would mean lowered production of many building materials much as the hectic structural activity of 1942 meant expanded output.

Scarcity of materials in its dislocative effects early brought pinches of all sorts; with this condition came greater production and use of building glass, brick, plastics, tile, gypsum, and compressed concrete, to name but a few. Toward the close of the year increasing numbers of manufacturers of building materials were turning to substitutes for lumber, steel, and other once standard materials, basic to the construction processes.

### MACHINERY AND EQUIPMENT

Irrespective of ebbing construction generally, the output of machine tools and equipment in 1943 promises to be at a record level, war or no war. It is not so much that the record total of machine tool output of 1942, which amounted to some \$1,300,000,000, an increase of about 70 per cent over the 1941 figure, is again about to be pierced. Rather, is it, come what may, the machine tool industry is assured of an abnormally high productive rate, not alone to meet new needs but to service replacement requirements as well. To this industry fell the job of equipping the thousands of factories, new and old, for the manufacture of virtually every type of munitions and war equipment, the job of producing lathes, drills, screw machines, milling machines for the fashioning of the implements of total warfare.

### MANPOWER

To make machines, it took manpower; to produce the countless items that machines and manpower together alone could make, it took more manpower. All the while, direct diversions of manpower to the military were on the increase; demands for more labor, from agriculture, from transportation, and from public utilities, even from civil agencies of the Government, were expanding.

By December, 1942, durable goods

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manufacturing production alone required 23 per cent more wage-earners than a year earlier, to say nothing of the longer work-week. Shrouded in this general increase in the number of wage-earners was the more than doubling in the number of employees in the field of transportation equipment (except automobiles), most largely reflective of the rise in shipbuilding and aircraft labor requirements.

Much as in the case of surpluses not so long ago, occupational and regional shortages of manpower have become our outstanding economic, political, and social riddle. How elusive the answer is best indicated by the data on payroll payments, for these reflect the lengthening work-week as much or more than changes in basic pay rates to wage-earners; other dislocations they reflect as well.

Take durable goods manufacturing again. In December 1942, weekly payments to wage-earners showed an expansion in excess of 60 per cent over a year ago; in transportation equipment manufacturing alone, payroll payments were more than three times as great as a year earlier. In the non-durable goods manufacture, the overall increase in number of wage-earners, amounting to not over 3 per cent since December 1941, was much more modest than was true in the durable goods industries as a whole. Though some branches of the non-durable goods industries showed declines in wage-earners as was true in the durable goods field, some showed much more than the average increase during the 12-month interval. Notably, was this true in the chemical and food processing industries.

In the case of payroll payments,

total weekly wages to employees in all non-durable goods industries advanced about 24 per cent; for chemical lines alone an increase of upwards of 70 per cent was recorded.

More detailed analysis would disclose other basic maladjustments between durable and non-durable goods. To illustrate, the ratio between wage-earners in durable manufacturing lines and the number in non-durable manufacturing in December, 1942 was 1.66; a year earlier, it was 1.39, unity being 1.00. The ratio between weekly payroll payments made to wage-earners in durable goods manufacturing and payments to those in non-durable manufacturing lines in December 1942 was 2.09; a year before, it was 1.60.

Full employment and higher levels of wages and real purchasing power than ever before are things apart. Important milestones as these are momentarily, it is necessary not to permit ourselves to become blinded to the new responsibilities they have imposed over the longer future, when men and women and the equipment they had operated will have to be reconverted to gainful peacetime pursuits. Problems, yes, but because they are so challenging, they require methodic attention. If there has been genius in the production for war, then that ingenuity can be, indeed must be, mobilized for production in peace.

Together, men, machines and money in 1942 provided a glorious story of a free people in action. To be enduring, this story some day will have a sequel that must tell just as cogently the meaning of true freedom.

# THE UNITED STATES TARIFF COMMISSION

## THE UNITED STATES TARIFF COMMISSION

BY OSCAR B. RYDER

CHAIRMAN, THE UNITED STATES TARIFF COMMISSION

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### MOBILIZATION OF WARTIME RESOURCES

During 1942 the Tariff Commission completed the mobilization of its resources for full wartime duty. These resources of trained personnel and of accumulated information on industry and trade are now being devoted to the analyses of those war-created problems, including post-war problems, with which the Commission is by experience specially equipped to deal. This concentration on war work has occasioned no fundamental change in the Commission's functions or in the character of its work but has resulted in changes in emphasis and in the type of problems toward which its analyses have been directed.

Information previously collected has been brought up-to-date, analyzed in the light of the problems which the war has created, and made available to meet the urgent needs of war agencies. New commodity and regional studies demanded by the war situation have been undertaken and completed as rapidly as possible. Cost investigations, ordinarily undertaken for the light they throw on tariff problems, are now made by a greatly expanded accounting division to assist in the solution of problems arising out of price controls and other pressing economic aspects of the war.

The great bulk of the present work of the Commission may be classified under two main headings—work at the request of, and directly for, war agencies and work undertaken on the Commission's own initiative to insure a better understanding of war and

post-war economic and trade problems and to assist in their solution. The direct work of the Commission for the war agencies has been so great as to necessitate increases in some sections of the Commission's staff, increases which have been financed by the war agencies.

### COOPERATION WITH WAR AGENCIES

A number of projects have been undertaken for the War Department. These include cost investigations to supply information necessary to the negotiation of government contracts and for other purposes. They also include the preparation of a series of surveys relating to primary products and strategic geographical areas. Much of this material is of a highly confidential nature.

The War Production Board has called upon the Commission to undertake a considerable volume of work much of which is of a continuing nature. In addition, the Commission is represented on various committees concerned with shipping priorities and regularly assists the Division of Stockpiling and Transportation by supplying essential information.

In December 1941, the Tariff Commission by special agreement placed its facilities at the service of the Board of Economic Warfare and through liaison arrangement it co-operates closely with that Board. As one phase of this cooperation, the Commission has prepared a series of Maximum Foreign Supply Surveys covering over 100 different commodities



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ties. There has been a continuous flow of other projects, large and small, together occupying a considerable part of the Commission's time.

#### **COST AND PRODUCTION INVESTIGATIONS**

At the request of the Office of Price Administration, the Tariff Commission has conducted a series of major cost investigations found necessary in connection with establishment and maintenance of price ceilings on various commodities. These investigations have, in general, been directed to ascertaining for recent periods costs of producing and marketing various commodities. In this work the Tariff Commission's previous experience and contacts with industry have been particularly valuable.

Several of the investigations conducted by the Commission at the request of one agency have proved of considerable value and interest to other agencies. A good example is the Commission's study of Western pine, in which the Office of Price Administration, the War Production Board, and the Forest Service are all interested, although the study was originally requested by the War Labor Board. This investigation was conducted by the Tariff Commission in cooperation with the Department of Labor, which also has a direct interest in the results. Another investigation in this category is an extensive continuing investigation concerning the cost of producing petroleum. Although undertaken at the request of the Office of Price Administration, it is also of direct interest to the Office of the Petroleum Coordinator.

#### **FOREIGN TRADE PROBLEMS**

The primary function of the Tariff Commission is, as it has always been, to inform the Executive and the Congress on current and prospective problems relating to foreign trade, particularly on the competitive position of domestic industries, and to furnish them information in the field of international trade and trade policies. The importance of this function has been enhanced, rather than diminished, by

the war. When at length peace comes, the questions of trade and trade policies demanding solution will be the most difficult and complex which our country and the world have ever faced in this field.

After a careful consideration of the necessities of this situation and with the purpose of making the maximum contribution to industrial and trade problems of the war and post-war period, the Commission has undertaken on its own initiative two lines of work: (1) formulation of reports on the trade and trade policies of various foreign countries, particularly those of the British Empire and Latin America; and (2) preparation of studies of war developments in United States industries and their effects on the trade positions of the United States and other countries.

Studies of trade and trade policies of foreign countries are urgently needed in the present situation. They are needed, first, as a guide to action now in conducting our economic relations with Allied and neutral countries. They are needed, second, for the information they will supply regarding changes created by the war in the trade positions of the various countries of the world and regarding the problems of commercial policy which will result in the post-war period. Reference may be made in this connection to the important negotiations which are almost continuously being carried on with British Empire and Latin-American countries and to problems arising from lend-lease operations, especially those related to the implementation of Article VII of the Lend-Lease Agreements, which deal with broad commitments for economic collaboration between nations during and after the war.

#### **DOMESTIC INDUSTRIES**

The war has increased the importance of Tariff Commission studies regarding domestic industries, but it has also rendered them more complex and difficult. Old industries have been closed down or converted to war uses; new industries have been created. Some of these changes will last

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only for the duration, but others will tend to become permanent. All of them present war problems; some of them, in addition, will give rise in the post-war period to perplexing trade and tariff problems not only for the United States but for other parts of the world. The Tariff Commission is attempting so far as possible to anticipate those problems. By searching analyses of war developments it may indicate ways in which the problems created thereby may be avoided or be met.

### TRADE-AGREEMENTS PROGRAM

In addition to its work resulting from the war the Commission has continued its work in the trade-agreements program, although on a considerably reduced scale. Factual information was supplied in connection with the trade-agreement negotiations with Cuba, Peru, and Uruguay, with which countries agreements were signed during the year. Considerable work has also been done in connection with negotiations with Bolivia, Mexico, Iran, and Iceland, which negotiations are still under way. The Commission published a digest of trade data concerning the agree-

ment with Argentina and is preparing a similar digest on the agreement with Peru. The customary assistance by the Commission to the Committee for Reciprocity Information continues.

### AGRICULTURAL IMPORT QUOTAS

Under Section 22 of the Agricultural Adjustment Act of 1933, as amended, the Commission has conducted supplemental investigations with regard to cotton and wheat. The President has proclaimed changes in the import quotas on those commodities pursuant to the Commission's recommendations. As a result of these investigations, the President relaxed existing quota restrictions for specified types of wheat and wheat flour, suspended import quota restrictions on certain cotton and cotton waste, and also suspended country limitations within global quota on imports of long-staple cotton.

One of the investigations during the year under the general powers of the Commission made in response to a Senate Resolution, resulted in a report to the Senate on the effect upon the red-cedar shingle industry in the United States on imports of these shingles from Canada.

## ADMINISTRATION OF THE TARIFF LAWS

By C. A. FREEMAN

BUREAU OF CUSTOMS, TREASURY DEPARTMENT

### INFLUENCE OF WAR CONDITIONS

Not since the trying years of the First World War have so many special problems been delegated to the Customs Service as in 1942. War conditions for the third successive year continued to stimulate and expand its activities. Although collection of the revenue and prevention of smuggling remained the primary functions of customs officers, the enforcement of the Neutrality Act of 1939 and other laws relating to neutrality and national defense occupied much of their time prior to Dec. 7, 1941. Subsequent to that date

problems in connection with the prosecution of the war came to the fore, and the customs service was confronted with alien property control, trading with the enemy, handling of communications or correspondence arriving in or leaving this country by courier or in some other manner than by regular mail, seizure of Italian and German vessels for the violation of the Espionage Act, and the changed procedure necessitated by importations and exportations of merchandise by various governmental agencies for use in national defense or belligerent operations.

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#### EXPORT PROBLEMS

The Export Control Act imposed on customs officers a supervision and regulation of exports similar in many respects to that long exercised in connection with imports. Export control problems, already numerous prior to the declaration of war, progressively and substantially increased from then on, and the export of many critical, strategic, or other prohibited materials in violation of export control provisions was prevented by seizure of the goods and prosecution of the offenders. Among the subterfuges employed to evade export restrictions were the inclusion of prohibited merchandise as ship's stores, listing a fictitious consignee in the case of goods destined to prohibited nationals in neutral or allied countries, and attempts to conceal such articles as machine-tool parts and platinum in shipments which could be legitimately exported. Actual shipments, as well as the documents covering them, had to be examined to enforce export licensing requirements for strategic materials and to control shipments to blocked nationals. The volume of work connected with exports is partially indicated by the 4,430,358 export declarations which were filed in 1942 and 4,397,350 in 1941.

Acting under Foreign Funds Control provisions, customs officers pre-

vented many Japanese who were returning to Japan, prior to the entrance of the United States into the war, from taking with them money or other articles, the export of which was forbidden. An even more rigid supervision has been exercised subsequent to that time.

Plans for insuring the security of the Seattle waterfront were partially formulated and subsequently supervised by a local customs officer, who after actively aiding in organizing the same system in Tacoma, Wash. and Portland, Ore., served in an advisory capacity in the promotion of similar plans at seaports in California and elsewhere.

#### CUSTOMS COLLECTIONS

In view of the war's further disruption of maritime commerce, it is surprising that aggregate collections by the Customs Service in 1942 were within 0.2 of 1 per cent as much as in the previous year. This statement, however, fails to present the complete story, which can be visualized only by a month-to-month comparison. From the revenue viewpoint, 1942 started off well. For each of its first seven months, July 1941 to January 1942 inclusive, collections exceeded those for the corresponding months of the previous fiscal year, the \$239,654,659 collected at the end of January 1942 being 24.8 per cent greater

#### MERCHANDISE ENTRIES

	Number of Entries		Duties Collected		Percent of Increase or Decrease (—)	
	1941	1942	1941	1942	No. of Entries	Duties
Consumption entries.....	389,125	365,216	\$210,724,762	\$195,296,996	— 6.1	— 7.3
Warehouse and rewarehouse entries.....	62,914	51,059	—	—	—18.8	—
Warehouse withdrawals....	327,707	249,995	173,976,473	186,298,749	—23.7	7.1
Mail entries.....	294,513	258,482	1,260,477	889,800	—12.2	—29.4
Baggage entries.....	465,011	391,161	310,343	252,672	—15.9	—18.6
Informal entries.....	179,328	200,600	692,847	655,448	—13.0	— 5.4
Appraisement entries.....	12,177	9,925	82,536	118,237	—18.5	43.3
Increased and additional duties.....	—	—	4,089,543	5,084,673	—	24.3
Other.....	644,192	603,101	183,522	204,258	— 6.4	11.3
Total.....	2,374,967	2,131,539	\$391,320,502	\$388,800,833	—10.2	— .6

## ADMINISTRATION OF THE TARIFF LAWS

than for the same period of the year before. Then the effects of the war began to be apparent. The last five months of 1941 had witnessed a sharp rise in collections due to largely increased importations of unmanufactured wool and of certain metals. Just the opposite trend took place in 1942. For the five months, February to June, 1942, collections averaged \$4,000,000 per month less than during the first seven months of the year, aggregating only \$150,404,564 as compared with \$200,270,039 during the last five months of 1941. The diminished collections during the last five months of 1942 thus wiped out the increase over 1941 built up during the early portion of the year.

Aggregate collections of \$428,596,660 in 1942 and \$429,543,784 in 1941 included \$390,059,109 and \$392,233,153 in 1942 and 1941 respectively, of actual customs revenue. The remainder consisted chiefly of Internal Revenue taxes on imports of alcoholic beverages together with some other items of lesser importance.

The types of duty collections during the past two years are shown in the table on the preceding page. Detailed analyses of duties by commodities or by countries can not be made public at the present time.

### REFUNDS AND DRAWBACKS

A considerably smaller amount was refunded to importers as excessive duties during 1942 than during the previous year when substantial amounts were refunded after court decisions established rates on certain commodities lower than those originally specified by customs officers. Most of the amounts refunded in 1942 represented adjustments resulting from changes in classification, weight or value ascertained subsequent to importation. The amount of drawback paid in 1942, \$16,295,119, was only slightly smaller than in 1941. More than 99 per cent of this was due to the export of merchandise manufactured from imported materials, of which, during the past year, copper, sugar, lead and zinc were most important.

### ENTRIES OF MERCHANDISE

For the fourth successive year there were fewer entries of merchandise than during the preceding year, despite the fact that duty collections were at almost as high a level as in 1941. The continuation of this somewhat anomalous situation was due to the character of the imports which, under the war conditions of the past three years, yielded more than half the customs revenue. On sugar, wool, and metals the average yield in revenue per entry is high, while those commodities previously received from Europe were imported in comparatively small quantities and at frequent intervals. Each of the important types of entries declined numerically in 1942, but collections from several of the various types of entries were larger than in 1941.

### INTERNATIONAL TRAFFIC

**Motor Vehicles and Trains.**—The number of motor vehicles which entered the United States during 1942, 9,446,396, was 6 per cent greater than during the previous year, and these brought 25,706,441 passengers into the country. A slightly smaller number of passenger trains entered the country during 1942, but the number of passengers carried was 30 per cent greater than during the previous year.

**Vessels.**—The number of vessels entering this country in 1942 was slightly larger than during the previous year but the number of passengers arriving by this means continued to decline, reaching the low level of 305,190 or 31 per cent less than the previous year.

**Airplanes.**—For the eleventh consecutive year, airplane traffic on international lines continued to expand. The number of commercial airplanes entering the country was 31 per cent greater and the number of passengers using this means of transportation 42 per cent greater than during the previous year. The port of Miami, Fla. continued to be the most important terminus in the country. Large gains over the previous year were also reported at Detroit, Mich.; Buffalo, N. Y.; Great Falls, Mont.;



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Bangor, Me.; and Fairbanks, Alaska.

#### MARINE ADMINISTRATION

The transfer to the Customs Service on March 1, 1942 of the direction and supervision over certain maritime functions corrected a long-standing anomalous situation. For many years customs field officers performed duties over which the Bureau of Marine Inspection and Navigation, Department of Commerce, exercised administrative control. These functions included the registry, enrolment, and licensing of vessels, issuance of commissions to yachts, assignment of signal letters, admeasurement of vessels, administration of tonnage duties, entrance and clearance of vessels and aircraft, regulation of vessels in the coasting and fishing trades and the recording of sales, conveyances, and mortgages of vessels.

The dislocation of the maritime commerce of the United States resulting from the entrance of the United States into the war necessitated the waiving by the Secretary of the Treasury of compliance with the navigation laws, when such action was desirable for the conduct of the war. In most instances the waivers related to the coastwise laws and due to their close relation to the war effort were given a confidential status.

#### MERCHANDISE AND NARCOTICS SEIZURES

A larger number of seizures were made in 1942 than during the previous year, and their value was 15 times greater than in the year before. Much of the increase in value was due to the inclusion as customs seizures of the value of several boats and cargoes, some of which prior to March 1, 1942 would have been classed as seizures under commerce laws. Aside from such seizures, however, there was a pronounced increase in the value of seized merchandise. Two seizures of precious stones alone in 1942 were valued at \$831,273 or almost as much as the entire value of the merchandise seized during the previous year.

The number of narcotic seizures continued to decline but their value was nearly double that of 1941. Despite a pronounced shortage of narcotics in the United States, the diminished trade with the Near East and cessation of trade with the Orient, coupled with success of enforcement officers in breaking up smuggling rings reduced the value of narcotic seizures to but a fraction of the total of a few years ago. Most of the narcotic seizures during the year were made along the Mexican border where traffickers continued to operate on a small scale.

### RAILROADS

BY JOHN J. PELLEY

PRESIDENT, ASSOCIATION OF AMERICAN RAILROADS

#### GENERAL

Nineteen hundred and forty-two—the first full calendar year of active United States belligerency since 1864—was a year of unprecedented activity in the field of transportation. The railroads, which now perform approximately two-thirds of all the commercial transportation service of the United States, were called upon to handle the greatest volume of traffic in their history. They handled this

record traffic without serious delays or car shortages anywhere in the country and with an efficiency that surpassed all previous performance records—in peace or war.

#### WARTIME TRAFFIC

The reports for the year contain a few paradoxes. For instance, carloadings—a popular yardstick of railway activity—were 19 per cent below 1926, when they were at their all-

## RAILROADS

time peak. Yet, the total volume of freight traffic handled by the railroads in 1942, as measured by tons carried one mile, exceeded that of 1926 by 43 per cent.

Also, the total number of passengers carried by the railroads in 1942 was 44 per cent less than it was in 1920, when the all-time peak was reached. Yet the total volume of passenger service performed, as measured by passenger-miles, exceeded that of 1920 by 14 per cent.

The explanation of these seeming contradictions is simple enough: the average car was loaded more heavily, and the average ton of freight was carried for a longer distance, in 1942 than in 1926; the average passenger traveled farther in 1942 than in 1920, due to vastly increased long-haul military traffic and to the transfer to the rails of large quantities of long-haul traffic which formerly moved by water routes.

### FACTORS IN EQUIPMENT CAPACITY

The performance of the railroads in meeting the nation's extraordinary wartime transportation demands seems all the more remarkable when it is considered that at the time the emergency began they were recovering from a prolonged and devastating depression which, coupled with intense highway and waterway competition, had forced nearly one-third of the railway mileage of the country into receivership or trusteeship.

Moreover, the railroads met the nation's transportation needs of 1942 with several thousand fewer locomotives and several hundred thousand fewer freight cars than they had prior to the depression. Their ability to perform more work, more efficiently, with less equipment, was due to a combination of factors. For one thing, the productive capacity per unit of equipment has been greatly increased by the expenditure since 1922 of more than \$10,000,000,000 for additions and betterments to the railway plant. As a result of these expenditures, the power of the average locomotive and the capacity of the

average freight car are much greater than they were a decade or two ago; also the speed of trains is greater, and the amount of freight service performed by the average freight train in an hour has more than doubled.

### COORDINATION AND COOPERATION

Still other reasons why the railroads have been able to meet the extraordinary demands of this war without bottlenecks or breakdowns are (1) the increased nation-wide coordination of railway operations through the Association of American Railroads, (2) the greater cooperation of shippers and receivers of freight, (3) the greater understanding and appreciation by government agencies of transportation problems and the importance of adequate and efficient railway transportation in warfare, and (4) the intelligent and constructive attitude of the Interstate Commerce Commission and of the Office of Defense Transportation, under Joseph B. Eastman, toward railway transportation.

### NEW TRANSPORTATION AGENCIES

To make certain that the mistakes of the First World War were not repeated and to obtain maximum efficiency, the railroads set up several transportation agencies to handle military and civilian traffic and transportation problems on a nation-wide basis. Foremost among these agencies is the Car Service Division of the Association of American Railroads, organized in 1920 to supervise generally the assembling, distribution, and supply of cars. To meet new conditions arising from the war, the Car Service Division has been expanded since 1939 by the addition of the following sections: (1) the Military Transportation Section, which organizes and directs special troop and military supply train movements; (2) the Port Traffic Section, which keeps close check on cars moving in and out of port terminals to see that ports are kept clear of congestion; (3) the Tank Car Section, which attends to

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problems affecting the movement of petroleum; and (4) the Passenger Car Section, which directs its attention to the distribution and utilization of passenger train equipment.

#### SHIPPERS ADVISORY BOARDS

Closely cooperating with the railroads and the government in expediting the wartime traffic are the 13 Regional Shippers Advisory Boards, composed of thousands of shippers of freight in all parts of the country. These shipper agencies have been doing outstanding work in speeding up the loading and unloading of freight cars and in estimating future equipment needs, so that requirements may be anticipated and provided for in advance.

#### OFFICE OF DEFENSE TRANSPORTATION

Late in 1941, President Roosevelt created the Office of Defense Transportation with Joseph B. Eastman, chairman of the Interstate Commerce Commission, as director, not for the purpose of operating or managing the various forms and agencies of transportation but for the purpose of coordinating transportation operations and providing adequate and centralized authority with a view to obtaining maximum utilization of each agency for the war effort. The Office of Defense Transportation exercises governmental regulatory authority over the railroads as well as over highway and waterway transportation. To carry out the job, Director Eastman has issued a series of general orders applicable throughout the country, as well as permits and other directives which are usually applicable to local or regional operation.

#### FREIGHT TRAFFIC

**Volume.**—The volume of freight traffic in 1942 totaled 637,000,000,000 ton-miles. This was 34 per cent greater than that of 1941 and 91 per cent greater than that of 1939. It exceeded the amount of traffic handled by the railroads in 1918, the peak year of the First World War, by 57 per cent.

Among the contributing causes of the unprecedented increase in freight business were (1) diversions of tonnage to the rails resulting from the withdrawal or transfer of coastwise and intercoastal steamships, (2) the use of all available cargo carriers on the Great Lakes for the transportation of iron ore, and (3) the curtailment of motor vehicle traffic due to gasoline rationing and the rubber shortage.

**Oil Shipments.**—One of the most spectacular shifts was that of oil. In the summer of 1941, when the first tanker vessels were transferred to Britain, a mere trickle of oil was moving by rail from the Mid-Continent oil fields to the Atlantic Seaboard area. In the fall and winter of 1941 it was necessary to divert many more tankers from domestic service, and the railroads were called upon to take over the load. By Jan. 1, 1942, about 64,000 barrels of oil were being delivered daily to the East in tank cars. This movement increased steadily until mid-summer when the railroads were delivering about 800,000 barrels daily.

**Coal.**—Another important diversion from water to rail was that of coal moving from the Western Pennsylvania-West Virginia-East Kentucky coal regions to New England, due to the transfer, withdrawal or sinking of collier vessels formerly engaged in this service. Normally, around two out of every three tons of bituminous coal consumed in New England moves to Hampton Roads by rail and thence to Boston and other New England ports by water, but by the end of 1942 less than one-fourth of the coal supply of New England moved by this route.

**Great Lakes Ore, Wheat, etc.**—On the Great Lakes all available bottoms were assigned to accomplish a record movement of more than 92,000,000 tons of vitally necessary iron ore, and much of the grain, coal and other commodities which normally move by boat were moved by rail in addition to the rail movement of the iron ore at both ends of the lake haul.

**Lumber and Other Products.**—

## RAILROADS

The discontinuance of coastwise and intercoastal steamship services had the effect of shifting from water to rail large quantities of lumber, rosin, turpentine, phosphate and other products. Fruits and vegetables which formerly moved from Florida to northern ports by water were transferred to the rails. The same is true of goods which formerly moved between Atlantic, Gulf and Pacific ports by way of the Panama Canal.

### PASSENGER TRAFFIC

The record-breaking railway passenger traffic in 1942, amounting to 53,500,000,000 passenger-miles, exceeded that of 1941 by 82 per cent and that of 1939 by 136 per cent. Compared with 1918, the peak year of the First World War, the 1942 traffic was up 25 per cent.

### TROOP MOVEMENTS

The transportation of troops during the year was by far the greatest for any 12 months' period on record. In the first 12 months of the war—Dec. 7, 1941, to Dec. 7, 1942—the railroads transported nearly 11,000,000 fighting men in special trains or in organized groups, not including millions of soldiers and sailors traveling singly either under military orders or on furlough. This was 2,000,000 more service men than were transported in special trains or organized groups during the entire period of the First World War. The movement involved the operation of many thousands of special troop trains. Approximately 40 per cent of all sleeping cars and 15 per cent of all railroad passenger coaches were constantly employed in the transportation of troops.

### EXPRESS AND MAIL TRAFFIC

Although complete figures are not yet available on express and mail handled by the railroads in 1942, it is believed that the volume of both express and mail exceeded that of any previous year. The Christmas mail rush was 12 per cent higher than ever before.

### OPERATING REVENUES

For the first time in railway history, total operating revenues exceeded \$7,000,000,000. Revenues were approximately 39 per cent above 1941 and 87 per cent above 1939. Passenger and express accounted for the greatest increase in operating revenues in 1942.

### OPERATING EXPENSES

Total operating expenses in 1942, amounting to \$4,601,000,000, represented an increase of 25 per cent over 1941 and 57 per cent over 1939. The greatest increase occurred in transportation service, representing about one half of total operating expenses.

### TAXES

For the first time in history, railway taxes in 1942 exceeded \$1,000,000,000. Prior to 1941, the largest railway tax bill on record was \$396,683,000 in 1929. Taxes fell off during the depression, and then mounted to a new record of \$547,000,000 in 1941, but in 1942 taxes rose to \$1,202,000,000—more than double what they were in 1941 and three times what they were in 1929. The ratio of taxes to total revenues amounted to 16.1 per cent in 1942, 10.2 per cent in 1941, and 8.9 per cent in 1939.

### NET INCOME

Handling by far the greatest traffic ever moved, the railroads earned in 1942 a net income of approximately \$960,000,000, the highest net income ever recorded.

### RAILWAY PURCHASES AND BETTERMENTS

Total railway expenditures for fuel, materials and supplies in 1942 amounted to \$1,400,000,000, the largest sum spent for these items in any year since 1926. Gross expenditures for additions and betterments to railway property in 1942 totaled around \$600,000,000, the largest for any year since 1930.

### RECEIVERSHIPS AND TRUSTEESHIPS

Of 86 railroad companies in the hands of the courts at the end of the



### XIII. MANUFACTURES AND TRANSPORTATION

year, 31 were Class I railroads. Five of these, operating 5,607 miles of road, were in receivership, and 26, operating 59,087 miles of road, were in trusteeship. During the year three Class I railway companies—the Wabash, the Norfolk Southern, and the Minneapolis and St. Louis—were discharged from receivership, and one Class I railroad—the Alton—filed a petition for receivership.

#### EMPLOYMENT AND COMPENSATION

Railway employment increased steadily for the third consecutive year. The number of railway employees in 1942 averaged 1,271,000, as against 1,140,000 in 1941 and 987,675 in 1939, an increase of 28 per cent in three years. The average hourly compensation in 1942 amounted to 85.1 cents, the highest on record. This compares with 78 cents in 1941 and 75.1 cents in 1940.

In the fall of 1942 the "non-operating" railway employees (clerical, maintenance, shop craft, telegraphers, signal men, etc.) made wage demands which, if allowed, would cost the railroads about \$450,000,000 a year in additional wages. Operating employees (enginemmen, firemen, conductors, trainmen and watchmen, etc.) likewise demanded an increase which, if allowed, would cost the railroads upwards of \$300,000,000 a year in additional wages. The demands of these two groups, if granted in full, would mean an increase in operating costs of approximately \$750,000,000 a year.

#### RATES AND FARES

Early in 1942, the railroads were authorized by the Interstate Commerce Commission to increase passenger fares approximately 9 per cent, and to increase freight rates an average of approximately 4.7 per cent. The passenger rate increase became effective Feb. 10, and the freight rate increase became effective March 18. The Commission also authorized the railroads of the southeastern territory to increase basic coach fares from 1.65 cents to 2.2 cents a mile, effective Oct. 1, 1942.

These increases have been largely or wholly offset, however, by voluntary reductions in freight rates on fuel oil, gasolines, sugar, rubber, ammunition, and many other commodities made to meet special situations and conditions, and also by reductions in passenger fares for men in uniform traveling on furlough.

It is estimated that, had the increases allowed by the Commission been in full effect throughout 1942, they would have yielded the Class I railroads approximately \$366,000,000. On the other hand, the wage increase of Dec. 1, 1941, resulting from findings and mediation of a special Presidential Board, added \$389,000,000 to railway operating costs during 1942.

Some idea of the extent of the voluntary reductions in freight rates may be gained by the fact that the reductions on fuel oil alone run to approximately \$142,000,000 a year. Reduction in passenger fares to members of the armed forces amounts to approximately \$76,000,000 a year. Increased prices paid for materials and supplies added \$100,000,000 a year to railway operating costs.

Notwithstanding increased operating costs and greatly increased taxes, the average revenue per ton-mile in 1942, amounting to 9.29 mills, was the lowest for any year since 1918. It compared with 9.35 mills in 1941 and 9.73 mills in 1939. The average revenue per passenger-mile, amounting to 1.920 cents in 1942, reflects the increase allowed the railroads in the early part of the year. It compares with 1.754 cents in 1941 and 1.839 cents in 1939. It is lower, however, than the average revenue per passenger-mile for any year prior to 1936.

#### OUTSTANDING PERFORMANCE

New efficiency records established by the railroads in 1942 included the following:

1. Average freight load per train of 1,035 tons, the highest on record.
2. Performance per freight train, measured by gross ton-miles per freight train-hour increased to 35,791 in 1942, the highest on record. Net ton-miles per freight train-hour in-

## HIGHWAYS

creased to 16,223 in 1942, the highest on record.

3. For each pound of fuel used in freight service in 1942, railroads hauled 9.1 tons of freight and equipment one mile, the highest on record.

4. Average load per freight car was 31.7 tons in 1942, the highest on record.

5. The average haul of freight shipments in 1942 broke all records, increasing by approximately 50 miles compared with the preceding year.

6. Average daily movement of freight cars was 49 miles in 1942, a new high record.

7. Average passengers per car and

per train broke all previous records by a wide margin, the load per car being more than 45 per cent and the load per train being more than 69 per cent greater than in 1941.

8. Average freight car capacity of 50½ tons in 1942 was the highest on record.

9. Average daily movement of a freight locomotive in 1942 was 122.6 miles, also a new high.

10. Tractive power of steam locomotives averaged 52,000 pounds, an increase of 40 per cent compared with 20 years ago, and the highest on record.

## HIGHWAYS

By THOMAS H. MACDONALD

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### HIGHWAYS AND THE WAR EFFORT

The rising tempo of industrial production for war placed an ever greater burden upon highway transportation in 1942. Over the nation's highways moved both a rising tide of workers and soldiers who make and use the machines and materiel of war, and a rapidly swelling flood of the raw materials and finished products of war factories.

The 9,364 miles of highways of all classes brought to completion during the fiscal year (ended June 30, 1942) under the Federal-state program, composed in large part of correction of critical deficiencies on main highways, was a positive contribution to the war effort by facilitating the safe flow of wartime traffic. The safety of wartime traffic was also enhanced by elimination during the year of 237 highway-railroad grade crossings, reconstruction of 74 obsolete elimination structures, and installation of protective devices at 582 crossings.

A most important part of the year's work was the supervision of planning of more than 600 access roads to key war factories and military and naval

establishments. Approximately half of the mileage of these projects had been advanced to the construction stage at the end of the fiscal year.

While making intensive efforts toward the provision of urgently needed highway improvements, highway officials also cooperated with war agencies in steps taken to defer all noncritical highway work until after the war and to reduce to the minimum the use of steel, copper, zinc, asphalt, tar, and other critical materials in highway work that can not be deferred. Considerable savings in critical materials were effected through changes in design.

### SOURCES OF FUNDS

Total cost of work completed during the year under the Federal-State cooperative program was \$278,377,000, of which \$163,184,000, or 59 per cent, was Federal funds, chiefly regular Federal-aid funds. Regular Federal-aid funds for the fiscal year 1942 were \$100,000,000 for improvement of the Federal-aid highway system, \$17,500,000 for improvement of secondary or farm-to-market roads, and \$20,000,000 for the elimination of

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hazards to life at railroad grade crossings. Wherever possible, regular Federal-aid funds were used to pay the cost of access and strategic network projects.

The Defense Highway Act of Nov. 19, 1941, authorized \$150,000,000 for construction of access roads to military and naval reservations, to war industries, and to sources of raw materials. The act also provided \$25,000,000 for apportionment among the states according to the Federal-aid formula for correction of critical deficiencies on the strategic network of highways, and an additional \$25,000,000 for the same purpose to be used without regard to apportionment. Ten million dollars were authorized for study and construction, in cooperation with the Army Air Corps, of flight strips adjacent to public highways suitable for the landing and take-off of aircraft. On July 2, 1942, the act was amended by increasing to \$260,000,000 the funds available for access roads and making \$10,000,000 of this specifically available for access roads to sources of raw materials.

#### ACCESS AND STRATEGIC NETWORK ROAD CONSTRUCTION

Construction of the access roads needed to speed the nation's war effort was carried forward as rapidly as possible during the year. These roads are scattered in all parts of the country in proportion to the intensity of war activity, and provide connections from the existing highway network to new or expanded war plants, shipyards, air bases, training centers, and other military and naval establishments. Such road projects undertaken at the close of the fiscal year totaled 605 in number and 2,288 miles in length.

Completion of projects to correct critical deficiencies on the strategic network and other main highways was also speeded during the year. Over these highways flow large volumes of truck traffic engaged in transporting vital war materials as well as food and other necessary commodities. Deficiencies on these routes that

dam back the flow of war materials and necessities of life for war workers are just as critical as deficiencies in war production plants themselves. It is estimated that in excess of 50,000,000,000 ton-miles of freight were hauled on rural highways in 1942.

#### TYPES OF ROAD COMPLETED

The following types of road improvement were made during the year:

	Miles
Graded and drained.....	1,363
Sand-clay, treated and untreated.....	1,061
Gravel, treated and untreated.....	2,976
Macadam, treated and untreated.....	218
Low-cost bituminous mix.....	1,485
Bituminous macadam.....	166
Bituminous concrete.....	366
Portland cement concrete.....	1,671
Block.....	7
Bridges and approaches (surfaced).....	43
Grade separations.....	8
Total.....	9,364

During the present transportation shortage, which has brought gasoline and fuel-oil rationing, the full benefits of the highway-railroad grade crossing elimination and protection program are being realized as never before. The 5,400 crossings eliminated and 5,000 crossings protected during the calendar years 1933 through 1941 add greatly to the safe and swift movement of war-swollen railroad and truck traffic.

#### HIGHWAY SAFETY

The death toll in motor-vehicle accidents during 1941 was 40,000, an increase of 16 per cent over the previous year. Increases of 9.9 per cent in gasoline consumption and 7.4 per cent in number of registered vehicles were also recorded during the year, and the death rate per 100,000,000 vehicle-miles of highway travel rose from 12.1 in 1940 to 12.6 in 1941.

Traffic accident reports show that one or both drivers were violating a traffic law in two of every three fatal accidents in 1941. Pedestrian deaths totaled 13,600, or one-third of the total. Forty-two per cent of the pedestrians killed were crossing between intersections and an additional

## THE MOTOR BUS INDUSTRY

10 per cent were crossing at an intersection but against the traffic signal. Speed violation was a contributing factor in two of every five fatal accidents. Traffic deaths in urban areas totaled 14,500 in 1941, a 7 per cent increase from 1940; while those in rural areas totaled 25,500 in 1941, an increase of 21 per cent over the previous year.

### THE HIGHWAY TO ALASKA

The largest single highway project of modern times—construction of a military highway from Alberta, Canada to Alaska—was undertaken in 1942, and at the close of the calendar year military supplies were being hauled by truck over the highway. On March 6 the Canadian Government announced its approval of the project, and accepted the offer of the United States to construct the highway. At the request of the Chief of Engineers, U. S. Army, the Public Roads Administration cooperated with

the War Department in the location and construction of the highway.

The new highway connects with existing highways in Alaska and Canada and a railroad running north from Edmonton to Dawson Creek. It passes through Fort St. John and Fort Nelson in British Columbia, Watson Lake and Whitehorse in Yukon Territory, and Boundary and Big Delta. Fairbanks is the terminus in Alaska. This road, some 1,600 miles in length and known as the Alcan Highway, was officially opened by appropriate ceremonies on Nov. 20 at the point where the highway cuts the Alaska-Yukon Territory boundary, midway between the 62nd. and 63d. parallels of North Latitude. The virtual completion of this project to link up the United States with Alaska brings to realization a dream of a decade and a half. The work was rushed because of the obvious advantage of such a highway link in wartime.

## THE MOTOR BUS INDUSTRY

BY CARL W. STOCKS

EDITOR, *Bus Transportation*

### IMPACT OF WAR

The impact of war upon the bus industry has been direct and drastic. A necessarily incomplete count shows more than 60 major governmental and economic developments in the past year which have directly affected the bus business, including an avalanche of new riders, resulting both from increased war employment and from curtailments in the use of private cars.

### GOVERNMENTAL CONTROLS

The vital interest of the nation in the conduct and conservation of its domestic transportation services has necessitated the extension of iron-bound governmental controls to virtually every phase of the bus business. The result has been a variety of government orders and directives

ranging all the way from the rationing of tires, in January, to the order of the Office of Defense Transportation in November directing carriers in seven major cities immediately to cut service from 15 per cent to 25 per cent. In between were such orders as that in July, necessitated by the shortage of critical materials, which temporarily suspended the manufacture of bus equipment after 1942's quotas were filled; the order in September which, to conserve tires, put a top limit of 35 miles per hour on bus speeds; the required pooling agreements between certain carriers serving major points, to eliminate duplicating service, which began in May; the 12-point plan of service curtailments for city carriers issued by ODT in April; the paralleling order covering intercity carriers issued in June; and the war necessity cer-



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tificate requirements set up by ODT in September.

#### BUS INDUSTRY PROBLEMS

The banning of sightseeing operation, the freezing of rail schedules, the rationing of gas, the drafting of hard-to-replace employees, the necessity of training women to take their place, the shortage of repair materials and even of substitute materials, the impossibility of getting enough new equipment properly to handle the vastly increased traffic load, these and a hundred allied problems have provided a nightmarish year for the bus executive.

One new and unusual problem for both bus companies and Government has been the need to discourage people from traveling. For example, before the war about 85 per cent of all intercity travel was by private automobile. With the advent of tire and gas rationing the private car rider began to turn to the public carrier, but it was apparent from the start that the public carrier could not take over more than a fraction of the load thus diverted to its vehicles.

#### TRAVEL CURTAILMENT MEASURES

A survey conducted by OPA last summer indicated that about 40 per cent of intercity travel was non-essential at that time. Strenuous efforts since have been made to discourage non-essential riding, but while it is comparatively easy to ration a commodity like sugar, it is not so easy to ration a service like transportation. The Government still is wrestling with this problem, and bus carriers are doing what they can to help, even to the extent of carrying paid advertising urging people to stay at home. With every passing month, however, the motor carriers are finding themselves faced with an increasing patronage that is putting a severe strain on their already overloaded facilities.

While this is true of both intercity and city carriers it is especially so of the city companies, because of the tremendous increases in industrial

riding, the carrying of workers to and from their jobs. The problem is greater in war manufacturing centers than in outlying regions, but there is now an acute shortage of facilities practically everywhere. The plain fact is that the motor carrier system was not developed with the intent to handle all the available riding. It was developed to operate in conjunction with the private automobile and the railroads. The latter already are taxed to capacity, and as more and more of the 23,000,000 private cars are laid up the problems of the public carrier will increase in direct ratio.

#### TRAFFIC VOLUME

An actual count of the number of passengers carried in 1942 by the bus industry is not yet available, but it is known that city patronage has increased approximately 40 per cent and intercity patronage 60 per cent over 1941. Based on the 1941 total of 4,800,000,000 passengers, a fair estimate for 1942 would be very close to 8,000,000,000 riders for 1942, or an increase of approximately 3,000,000,000 passengers over 1941.

One important source of patronage for the intercity carriers has been the Selective Service System. It is estimated that each man inducted into the Army travels approximately 200 miles at public expense before he finally becomes a soldier of the United States, and a very large percentage of inductees are carried by bus. Some time ago when a 4,000,000-man army was envisioned, it was estimated that the bus job involved in handling the requirements of the Selective Service System would total 1,000,000,000 passenger miles. Presumably, this estimate could now be revised upwards.

In actual numbers of passengers by far the greatest increase has been in the local field and stems directly from increased civilian riding, much of it essential to the war effort. The Government has stated that the maintenance of bus service is essential to the continuance of our war economy. To protect the national interest all phases of the bus industry have been placed under the jurisdiction of the

## THE MOTOR BUS INDUSTRY

Office of Defense Transportation including even the school buses. ODT in turn has ordered the discontinuance of any service not essential to the war effort, and has laid down a number of rigid rules for the operation and conservation of the existing bus equipment.

### TRANSPORTATION POLICY AND SUPERVISION

In April a 12-point statement of government policy respecting local passenger transportation was issued by ODT, and all local transit operators have since followed closely the 12 points laid down in this policy. These include the discontinuance of all possible stopping points enroute, a ban on the inauguration of new routes except to places of war employment, the discontinuance of charter buses for pleasure trips, and of all other types of non-essential services. The 12-point plan likewise directs local companies to make full use of existing street railway facilities and to eliminate paralleling and duplicating bus routes. ODT still more recently directed local companies in New York, Baltimore, Philadelphia, Chicago, Richmond, and Dayton to cut bus service from 15 per cent to 25 per cent.

In July ODT issued an order to intercity bus carriers which outlined comparable plans for the conservation of intercity bus equipment and supplies. These included the discontinuance of limited or express services; the discontinuance of all runs with average loads of less than 40 per cent capacity; the elimination of service to places of amusement; the freezing of routes except for curtailments and discontinuances; and in many cases the pooling of competitive services covering the same or closely parallel territory.

ODT has issued numerous other orders and directives including one which discontinued all sightseeing operations, and another requiring every bus, truck, taxicab and similar commercial vehicle to secure a "Certificate of War Necessity" equivalent to a Federal license. Operators subject

to this latter order will not be able to obtain gasoline, tires, or equipment unless they have a certificate in good standing.

In addition to the wartime regulations briefly outlined above, all carriers remain under the jurisdiction of their state or Federal authority, or both, according to their status before ODT took action. State and Federal authorities have in most instances streamlined their requirements to coincide with ODT for the duration.

### ENGINEERING AND CONSTRUCTION DEVELOPMENTS

Engineering developments naturally enough have been at a standstill during the year, except in so far as these are represented by the ingenuity of individual carriers in surmounting the shortage of parts and materials by home-made parts and contrivances in their own shops. The only outstanding manufacturing development has been the building of a new type trailer bus with carrying capacities ranging up to 110 passengers. These are designed mostly for short haul work and many of these vehicles have simply been conversions of trailer and haulaway trucks and commodity carriers to passenger use. However, a few bus companies and one or two manufacturers have brought out completely new bus trailer models.

While engineering developments were at a standstill during the year, bus manufacturers have been busy finishing up quotas allotted for 1942. Approximately 12,000 new buses have been built during the year, including approximately 1,000 trailers. The manufacturing outlook for 1943 is certain at this time. The industry could make effective use of every piece of equipment manufactured. The graveyards of the bus industry already have been combed for all discarded equipment that could conceivably be salvaged and rebuilt. Hundreds of vehicles of ten and 15 year vintage have been resurrected and put back into service. Manufacturers would have no difficulty selling more buses next year than they did in 1942, which was a record-breaker. The equipment

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shortage is one of the most serious of all the problems facing the bus industry at this time.

#### REVENUES

As to the few basic facts about the industry, it is believed operating revenues of the common carrier motor bus industry will exceed the \$757,000,000 mark for 1942 with about \$350,000,000 of this representing revenue from intercity and long-haul riding with the balance from local and suburban operations. The investment in the motor bus industry is now in the neighborhood of \$1,000,000,000.

#### OPERATION AND SERVICE

Including 1942 deliveries the line haul carriers of the industry now own and operate approximately 64,000

buses. There are about 3,500 common carrier companies, 2,600 in intercity service and 900 in local transportation. Service is given by these carriers over 393,000 miles of highway of which 345,000 miles is intercity route and approximately 48,000 miles represents city and suburban operation. In addition there are about 90,000 school buses serving some 1,300,000 miles of school bus route and carrying over 4,000,000 school children daily.

There is an increasing trend toward the use of women to replace men, both as drivers and in garages and shops as mechanics helpers and in other less skilled categories. While this trend is still in its infancy it is definitely something that will develop in 1943.

### COMMUNITY TRANSIT

BY JOHN A. MILLER  
EDITOR, *Transit Journal*

#### GENERAL

Community transit in the United States was called upon in 1942 to do the biggest job in its more than 100 years of existence. Limitations placed on the use of automobiles caused enormous numbers of people to shift from private to public transportation. Steady expansion of industrial activity and employment also added heavily to the loads carried by street cars, buses, and rapid transit lines. The great increase in the volume of transit riding was met partly through the construction of a record-breaking number of new transit vehicles and partly through the development of new operating practices which permitted more intensive use of all transit facilities. Transit's important contribution to the war effort was emphasized by numerous officials of the Federal Government who pointed out that the country's entire production system is predicated upon effective transportation and that it is quite useless to deliver a flow of materials to mill or factory if the human

agency is not at hand to fabricate them.

#### RIDING AND REVENUE

The upward trend in transit riding which was so marked in 1942 began in a small way as far back as 1934. From a low level of 11,000,000,000 passengers carried in 1933 the industry had gradually climbed back to a little over 14,000,000,000 passengers in 1941. This figure was still below the peak year of 1927 when nearly 17,000,000,000 passengers were carried, but steady progress was being made in that direction.

Various causes contributed to the pre-war increase in transit riding. One was the growth of urban population. Another was the increase in traffic congestion in city streets which tended to discourage the use of private automobiles. A third was the improvement in the character of service which the transit industry offered. Then came the outbreak of war in Europe. During its first year the war had comparatively little effect on

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the transit situation in the United States. By 1941, however, the national defense program had assumed proportions that resulted in a substantial upswing in industrial employment and a consequent increase in transit riding. This trend continued during the early months of 1942, accelerated somewhat by the shortage of rubber which impelled many motorists to cut down the use of their automobiles in order to save their tires.

When rationing of gasoline was put into effect in May in the 17 eastern seaboard states and the District of Columbia, it caused a substantial increase in transit riding in that area. When nation-wide rationing of gasoline was put into effect in November,

it produced a similar result throughout the rest of the country.

Reports from transit operating companies all over the United States indicated that the number of passengers carried in 1942 averaged about 30 per cent over the preceding year, bringing the total for the entire industry to nearly 19,000,000,000, an all-time high record. Even more significant, perhaps, was the fact that the December increase averaged about 40 per cent. In other words, transit riding during that month was at a rate of more than 20,000,000,000 passengers a year.

The total volume of riding in 1942 was divided among the several types of transit service approximately as follows:

	Passengers Carried	Per Cent of Total
Surface electric railways.....	8,000,000,000	43
Rapid transit railways.....	2,500,000,000	13
Electrified suburban railroads.....	200,000,000	1
Trolley buses.....	800,000,000	4
Motor buses.....	7,500,000,000	39
Total.....	19,000,000,000	100

Transit revenues followed the same upward course as transit riding. Changes in rates of fare have been comparatively few in recent years, and 1942 was no exception in this respect. Thus, the total revenue for the industry as a whole showed approximately the same 30 per cent increase that occurred in the number of passengers carried. This produced a gross of about \$1,110,000,000 as compared with \$852,508,000 for the previous year. The 1942 revenue figure, like that for transit riding, was an all-time high.

### FEDERAL REGULATION

When the United States became an active participant in the war in December, 1941 and the importation of rubber was cut off, it became evident that a transportation problem of serious proportions would soon develop. To meet this situation President Roosevelt promptly created the Office of Defense Transportation with

authority over all forms of rail, highway, and inland waterway transportation. Early in 1942 a special section of the Office of Defense Transportation was set up with the designation of Division of Local Transport. This placed the entire transit industry under direct regulation by the Federal Government for the first time in history.

For the purpose of conserving to the utmost the existing transportation facilities, a program was sponsored by the Office of Defense Transportation, including the following major points:

- (1) Encouragement of walking instead of riding for short distances.
- (2) Use of public transportation wherever possible instead of private transportation.
- (3) Establishment of staggered hours for factories, offices, and schools to permit public transit



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## SUMMARY OF TRANSIT OPERATION IN THE UNITED STATES

	Operating Revenue Jan. 1-Dec. 31	Passengers Carried Jan. 1-Dec. 31	Miles of Electrified Track as of Dec. 31†	Miles of Trolley Bus Route as of Dec. 31	Miles of Motor Bus Route as of Dec. 31	Number of Passenger Rail Cars as of Dec. 31	Number of Trolley Buses as of Dec. 31	Number of Motor Buses as of Dec. 31
1890	\$ 90,617,211	2,023,010,202*	8,123*	0	0	32,505*	0	0
1902	247,553,999	4,774,211,904*	22,577*	0	0	60,290*	0	0
1907	430,687,858	9,583,081,000	34,382*	0	0	70,016*	0	0
1912	602,511,704	12,285,342,000	41,065*	0	#	76,162*	0	#
1917	763,325,092	14,726,914,573	44,835*	0	#	79,914*	0	39
1922	1,014,727,485	16,161,846,851	43,932*	22	685	77,301*	28	370
1927	1,084,439,961	16,855,435,276	41,967*	31	18,007	70,309*	29	8,854
1932	745,323,819	11,745,985,108	34,742	276	26,604	64,585	285	16,693
1933	675,710,574	11,050,400,000	33,973	378	24,061	61,413	395	16,309
1934	710,374,526	12,103,200,000	32,028	467	24,933	58,225	448	17,411
1935	718,756,945	12,201,402,000	30,612	589	26,520	54,204	648	19,100
1936	765,756,000	12,984,842,000	29,319	850	27,717	51,730	1,154	22,104
1937	779,153,000	13,261,860,000	27,684	1,184	30,155	48,501	1,662	25,614
1938	744,091,000	12,663,167,200	26,185	1,474	32,042	45,466	2,002	26,477
1939	763,000,000	13,000,000,000	26,060	1,694	34,846	43,176	2,203	29,524
1940	785,000,000	13,228,000,000	23,249	1,935	39,994	40,515	2,836	32,602
1941	852,508,000	14,366,000,000	20,504	2,089	48,441	37,995	3,039	36,296
1942(a)	1,110,386,000	18,676,000,000	20,500	2,100	49,500	38,300	3,500	49,000

† Does not include lines operating freight service only (for 1941 only).

\* U. S. Census.

# Not Available.

(a) Estimates based on best available data, wartime conditions making it impossible to conduct a survey of same scope as in previous years

facilities to handle a larger number of passengers.

- (4) Formation of share-the-ride groups to utilize private automobiles more effectively where public transportation was not available.

An earnest plea for the adoption of this program was sent out by Director Joseph B. Eastman of ODT to the governors of all the states and to the mayors of all cities of 10,000 or more population. Progress in putting the plan into effect, however, was comparatively slow. Promotion of share-the-ride groups was successfully undertaken by numerous industrial plants employing large numbers of workers, but did not get very far among workers in offices and smaller plants. Studies were made in many cities with a view to the establish-

ment of staggered hours, but considerable opposition was encountered. Among the larger cities which had adopted staggered hours to a greater or less extent before the end of the year were: Atlanta, Birmingham, Boston, Cleveland, Dallas, Denver, Kansas City, Los Angeles, Louisville, Minneapolis, Newark, New York, Nashville, Oklahoma City, St. Louis, San Diego, Seattle, and Washington.

Anticipating that a heavy additional burden would be placed upon transit lines regardless of the success of the conservation program, the Office of Defense Transportation ruled that there should be no further substitution of buses in place of electric rail cars for the duration of the war and that any usable transit vehicles which were in storage should be rehabilitated and made ready for service. In addition, ODT recom-

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mended the construction of 800 new street cars, 600 new trolley buses, and 12,000 new motor buses for urban service. When this recommendation came before the War Production Board, however, the latter held that sufficient materials were not available to build all of these vehicles and authorized the construction of only 307 new street cars, 450 trolley buses, and about 9,000 motor buses. Additional authorization was given for the construction of several thousand motor buses to be built by placing bus bodies on motor truck chassis.

Exact figures are not available to show the number of older transit vehicles rehabilitated and restored to service. With respect to motor buses the number was not very large, as the transit industry had scrapped most of the buses it had retired from service and only a few were held in storage. The number of electric rail cars restored to service was greater than the number of buses, but here, too, it was found that many of the older cars had been scrapped. Among the cities which had cars in storage available for rehabilitation were: Boston, Cincinnati, Kansas City, Milwaukee, Philadelphia, and Portland, Ore. Along with the rehabilitation of cars, there occurred restorations of rail service on previously abandoned lines in Baltimore, Fort Wayne, Jersey City, Portland, Ore., Sacramento, Salt Lake City, and Schenectady.

### COMPARISON WITH THE FIRST WORLD WAR

The problems encountered by community transit in 1942 differed a good deal from those encountered during the First World War. In 1917 practically all urban transportation in the United States was being furnished by the street car, elevated railway, and subway lines, which had a total of about 80,000 vehicles. There were only a few motor buses in operation and the comparatively small number of people who owned private automobiles used them mostly for pleasure riding. Increased industrial activity resulting from the war brought

some increase in transit riding but not enough to cause serious equipment shortages in many places. At the beginning of 1942 the transit industry found itself equipped to do a job comparable to that which it did in the First World War. It was carrying about the same number of passengers and had about the same number of vehicles, but the job to be done turned out to be of far greater dimensions than that of 1917-18. A widespread habit of riding in private automobiles had developed during the intervening years and, when limitations were placed on their operation, there was an enormous shift to public transportation, unlike anything which had taken place during the earlier war. For example, the increase in transit riding in the first nine months of 1942 was approximately 27 per cent over the preceding year as compared with an increase of only 6 per cent during the same period in 1917. The number of new vehicles which the industry was able to obtain in 1942 represented an increase in carrier capacity only half as great in proportion as the increase in riding.

A variety of methods were used to meet this situation. The distance between stopping places was lengthened in many cities so that transit vehicles could operate at higher speeds and make a greater number of trips per day. Maintenance practices were revised, with much of the work being done at night so that the maximum number of vehicles would be available for service during the day. In cities where staggered hours were adopted, it became possible for transit vehicles to make two trips instead of one, or three trips instead of two during the rush hours, thus affording additional service.

### TRACK AND ROUTE

As a result of the ODT ruling against the substitution of buses in place of street cars there was comparatively little change during 1942 in the total of electric surface railway trackage which remained at approximately 15,200 miles. A few

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abandonments which had been planned before the ODT order was issued were completed. This loss of mileage, however, was offset to a considerable extent by the mileage of track restored to service after having previously been abandoned. No important changes occurred in the mileage of trolley bus or rapid transit lines, which remained at 2,100 and 1,200 miles respectively. Electrified suburban railroads continued to operate about 4,100 miles of track. Motor bus route mileage was considerably extended, principally to serve war plants not located on existing transit lines. It is estimated that the total length of route increased from 36,296 miles to about 49,000 miles during the year.

#### FUTURE TRANSIT PROSPECTS

Any study of the future of community transit must begin with an appraisal of the probable future status of the private automobile. Wartime conditions have caused a sharp curtailment in the use of private automobiles with consequently large increases in transit riding. Whether the use of automobiles will be resumed on the old scale after the end of the war will depend on factors that can not be accurately gauged at this time. One is the amount of rubber that will be available and its cost. Another is the number of automobiles that will become worn out mechanically while the war is in progress and while replacement parts are difficult to obtain. A third is the general economic situation, particularly with respect to employment.

Undoubtedly the manufacture of automobiles will be resumed by the automotive industry at the earliest possible date. Some time may be required to reconvert the plants from the manufacture of war equipment, but this can not be expected to have

any lasting effect on the situation. Indications are that special attention will be given to the production of low-cost automobiles, so that the largest possible number of people will be able to buy and own them. These factors will undoubtedly tend to reduce the volume of transit riding below the wartime level. A decrease in employment may also tend to curtail transit riding.

On the other hand, there seems little likelihood of change in the factors which have produced a steadily growing volume of transit riding over a period of years when the use of the private automobile was expanding at a rapid rate. Chief among these factors is traffic congestion in city streets. Many methods have been proposed and tried to solve this problem, but none has met with any marked degree of success. Elimination of street parking provides more roadway space for moving vehicles and tends to reduce congestion but usually adds to the cost of automobile operation through the necessity to pay charges for parking somewhere off the street. Building double-deck streets and super-highways has frequently been suggested as a solution of the traffic problem, but the cost has generally been found prohibitive. It seems unlikely that economic conditions at the close of the war will be such as to enable cities to adopt this plan on any broad scale.

Much will depend on what the transit industry is able to do with respect to equipment. Its vehicles are now being subjected to harder use than ever before. Prospects of obtaining new vehicles in the immediate future are not bright. Thus the end of the war will find the industry in great need of modernization. If this can be accomplished promptly, the industry will be in a favorable position to resume the progress made in the decade before the war.

## THE MERCHANT MARINE

### THE MERCHANT MARINE

By JOHN C. NIEDERMAIR

BUREAU OF SHIPS, NAVY DEPARTMENT

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#### GENERAL

The viper thrust by Japan at Pearl Harbor on the Sunday morning of Dec. 7, 1941 energized the giant strength of the American Merchant Marine in 1942 to proportions which tax the imagination to the utmost. The modest program of 50 ships per year that the Maritime Commission originally started in 1938 and which at the time seemed to many as nothing but "pork barrel," set the course, little dreamed of at the time, which made it possible to obtain experience and equipment on which to build the vast war machine. The immense change in tempo that took place during the year is clearly indicated by the comparison that in December, 1941, 26 ships were launched, which was approaching the goal at that time of one a day, and that by October, 1942, American shipyards had reached the goal of three ships a day by delivering into service 93 new cargo vessels of all types with a deadweight tonnage 1,009,800 during the month of September. The record for the year is one devoted almost entirely to the war effort. Civilian needs were but minor activities.

#### THE SHIPBUILDING PROGRAM

In his war message to Congress on Jan. 6, 1942 President Roosevelt, among other measures, directed a 50 per cent expansion of the 12,000,000-ton two-year shipbuilding program of the United States Maritime Commission. In response to the President's directive that 8,000,000 deadweight tons of shipping be constructed in 1942 and 10,000,000 tons in 1943, the Maritime Commission announced on Jan. 17 that it had expanded its program by negotiating for the construction of 522 additional merchant ships at an estimated cost of approximately \$958,000,000. In speeding up the program which already provided for the

construction of 1,400 sea-going vessels during 1942 and 1943, the Commission planned to make greater use of existing facilities and personnel. Old yards were to be expanded and two yards doing work for the British were to be utilized for American construction. All of the vessels of this program were to be completed by the end of 1943. This ambitious program superimposed upon the then supposed existing capacity condition of the shipbuilding facilities of the country meant that the American shipyards were to turn out over 1,900 vessels in the ensuing two years, the greatest shipbuilding effort in history. The ships contracted for represented over 5,000,000 deadweight tons and would give the United States a total of 18,500,000 tons of new maritime construction. The Commission's original plan to construct 574 ships of 6,000,000 tons in 1942 was enlarged to provide for the completion of about 850 vessels of approximately 8,000,000 tons. In 1943, this pace was to be speeded up to the rate of 1,000 vessels totaling about 10,000,000 tons.

On April 2, 1942 the Maritime Commission announced that contracts for a modified enlarged schedule of production had been awarded for 23,000,000 deadweight tons of merchant ships which President Roosevelt had set in February as the 1942-1943 wartime goal for American shipyards. The contracts called for delivery into service of nearly 2,300 ships, either cargo vessels or tankers, before the end of the two-year period, the greatest shipbuilding program in world history. This program did not include more than 700 other craft under Maritime Commission order, such as tugs, wooden barges, and small power boats, for which no tonnage figures were given.

The schedules called for the delivery of nearly 750 ships in 1942 and



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the remainder in 1943. The average scheduled production for the two-year period was to be about three ships a day. The peak production was expected to be reached toward the end of 1942. At the time of the Commission's announcement, April 2, 1942, approximately 1,500 of the vessels under contract were emergency cargo carriers of the Liberty ship type. The remainder were C-types and tankers of various Maritime Commission standard designs. The total of tankers under contract was 313.

The Commission also stated that in addition to contracts for ships it had authorized the construction of 16 new shipyards under government financing. Two others had been built under order by the British Government and will build Liberty ships when their British contracts are completed. Additional ways in existing yards also had been authorized, so that the capacity of American shipyards capable of building ocean-going vessels of 400 feet or longer had been increased about 500 per cent in the past two years. Merchant ships of all types were being produced in the shipyards on all coasts and the Great Lakes.

Expansion of the American merchant ship program since 1937, when the Maritime Commission was established, comprised the original peacetime program adopted in 1937 and put into operation in 1938 which called for 50 ships a year, a total of 500 in 10 years. In 1939 this was expanded to 100 ships a year; in 1940 to 200 ships; in 1941 to 400. Schedules for 1942 called for about 750 ships and for 1943 approximately 1,500. Up to April, 1942 the expanding schedules had been maintained, but future production under the accelerated schedules were dependent upon three principal factors: availability of materials, principally steel, promptly when needed; adequate supply of skilled labor; and productivity of the individual, either worker or executive, which is dependent on morale, and no slowdowns or work stoppages.

#### OFFICER AND SEAMEN TRAINING PROGRAM

In order to meet the manning requirements for these new ships the Maritime Commission announced early in 1942 that arrangements were being made to increase the capacity of its training facilities both for licensed officers and apprentice seamen.

Experienced seamen with necessary qualifications were expected to furnish more than half of the 15,000 new officers required. Within 90 days new buildings at Fort Trumbull, New London, Conn. would double its capacity for a seaman-officer training from 500 to 1,000 men each four months' training period. The Pacific Coast seaman-officer training facility at Alameda, Calif. would make use of a new station ship, *Delta Queen*, which would increase its capacity from 200 to 400 men. The Commission's cadet training program, plus graduates from four state nautical academies was stepped up to produce nearly 3,000 licensed officers by the end of 1943. The cadets are assigned to shore schools located at New York, San Francisco, and New Orleans for two months, serve 10 months on merchant ships, and report back to the cadet schools for 10 months of advanced study before taking their examinations for license.

It was estimated that at least 60,000 additional seamen would be required. To care for the expanded enrollment of apprentice seamen at the Hoffman Island, New York, station, additional barracks were to be added to increase the capacity from 800 to 1,300. Added facilities were also to be placed at the Maritime Commission's Swineburne Island, New York, station. Similar expansions were planned for the Port Hueneme apprentice seamen training school near Los Angeles and at the St. Petersburg, Fla. school.

On March 1, 1942 the training functions of the Maritime Commission were transferred to the United States Coast Guard and the program expanded still further under its direction.

## THE MERCHANT MARINE

### THE CONSTRUCTION RECORD

Thus the plans were laid early in the year, and "round the clock" full work day for both management and labor has produced ships in record time, each month bringing forth new records of one kind or another. Some individuals received more public notice than others, but as a whole the entire shipbuilding industry did a notable job during the year. The record month by month indicates the constant increase in ships delivered. Welding and prefabrication in large sub-assemblies, in conjunction with carefully planned delivery schedules for every item of equipment and tons upon tons of steel plates and shapes, together with the cooperation of labor, were mainly responsible for the constant increase in production.

The question was, as Admiral Land expressed it in his address on May 23, 1942: "Can the shipbuilding industry which in 1937 consisted of but 10 yards with 46 ways, most of them building naval ships and which had built but two ocean-going cargo vessels other than tankers in the 15 years prior to 1937, be expected to meet the nation's huge war requirement?" The answer to this question has been given with immense vigor so that the record of performance reported by Admiral Land showed that in May, 1942 there were approximately 60 shipyards on the Atlantic, Pacific, the Gulf, and the Great Lakes participating in the Maritime Commission's program or under construction. Two-thirds of these yards, with a capacity of 295 ways, were devoted to the construction of ocean-going merchant vessels averaging 10,000 deadweight tons. Nearly 300,000 men were employed in the merchant shipyards. About 200,000 more would be employed as rapidly as the shipbuilders could get them or train them.

In addition, there were 500 factories in all parts of the nation which were producing materials, parts, and supplies for merchant vessels. These plants employed nearly 1,000,000 workers.

Where 28 merchant ships were produced in 1938, and 40 in 1939, 103 in

1941, deliveries were stepped up to 138 by May, 1942, and two ships a day, 460 by October, 1942, reaching the goal of three ships a day.

Nearly two-thirds of the program was made up of Liberty ships, the emergency type of cargo vessel which the Maritime Commission developed from a proved British design, readily adaptable to mass production methods. Another reason for this choice was the fact that the ship was designed to use reciprocating steam engines for propulsion, a type of power plant which could be built by many manufacturers in this country. The entire capacity of the turbine and gear industry had been absorbed in the production of propulsion machinery for Naval vessels and standard Maritime Commission cargo ships and tankers.

### MAINTENANCE AND REPAIR

Paralleling the new shipbuilding program were the tremendous demands that the maintenance and repair of merchant fleets of the United States and our allies had placed upon the industry. The Maritime Commission reported for the year preceding April 1 that 450 vessels were degaussed, 560 armed and provided with gun crew quarters, and work was progressing on 120 others. Thirty-one sabotaged Italian and German vessels, requisitioned by this country in American ports, were repaired, degaussed, and equipped for war operation. The extent of the work on sabotaged vessels is shown by the fact that the total cost involved was about \$10,000,000. There were put into suitable condition for operation 65 foreign-flag vessels requisitioned from Danish, Finnish, French, and other owners, none of which had been sabotaged but all had to be armed and placed in good condition.

The remainder of the Old World War laid-up fleet, originally consisting of 198 ships which had been turned over to the Maritime Commission in 1937, were reconditioned and placed in service. Approximately \$250,000 was expended on each vessel. In nearly all of the big ship

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repair yards, ships of our allies which had been victims of submarine and bomber attacks, have been repaired in accordance with lend-lease agreements. Repair facilities of the country have been greatly expanded to meet the ever increasing volume of ship repair work which the war has brought to the United States.

The figures released by the U.S. Coordinator of Ship Repair and Conversion also indicated the magnitude of the ship repair business. During a 12-month period ended about Sept. 1, 550 ocean-going vessels in excess of 2,000 gross tons each have undergone minor or major repairs requiring the ship to go to the repair yard. These vessels represented a total tonnage of more than half the merchant ocean-going tonnage of the world. In addition, at least an equal number of ocean-going vessels in excess of 2,000 gross tons each have had minor repairs made outside the shipyards and at their own loading docks. To these totals, which are more than six times the normal volume, must be added the great volume of Navy and Army repair and reconditioning work on vessels of less than 2,000 gross tons each. The work performed in repair yards required management and workmen of the highest order of skill. The ships have been promptly and efficiently repaired, and valuable "ship days" have been saved.

#### ADMINISTRATION

On Jan. 5, 1942 the Maritime Commission announced the completion of the organization details of the Maritime War Emergency Board. The Board, set up as the result of a petition to the President by the Maritime Labor Conference on Dec. 19, 1941, was empowered by an agreement reached between employers and employees in the American Merchant Marine to settle differences that may arise between sea-going personnel and operators of American merchant vessels. It is also to establish war areas and determine a proper uniform basis for payment of war-risk insurance on the lives of crew members and war bonuses to be paid to crews

on ships operating in the war areas. War-risk insurance in the amount of \$5,000 per man has been effective since Dec. 22, 1941. The War Emergency Board established the amount of and the conditions under which wartime bonuses were to be paid to sea-going employees on American merchant vessels. The Board also established the amount and conditions under which officers and seamen of the United States Merchant Marine were to be reimbursed for the loss of personal effects resulting from war operations. Reimbursements for loss of personal effects range from \$150 to \$300 or more in special cases depending upon the grade or rank held by the individual.

The Maritime Commission announced on Feb. 2, 1942 the adoption of a plan for stabilization of war-risk insurance rates on merchant vessels. The general effect of the plan was that war-risk rates were to be on a monthly basis, a departure from the then existing policy of quoting daily rates. As a result, shipowners would be able to determine their war-risk insurance charges in advance on a month-to-month basis.

On Feb. 7, President Roosevelt by Executive order set up the War Shipping Administration to engage in each of the following four major tasks: transportation and maintenance of the American Expeditionary Forces in many scattered and distant sectors of the world; supplying the United States with war materials and lend-lease goods; importation of strategic raw materials in sufficient quantities to keep our war industries operating at full speed and to build up stock piles; and maintenance of our national economy and that of our "good neighbors" in the Western Hemisphere. Admiral Emory S. Land, chairman of the United States Maritime Commission, was appointed chairman of the War Shipping Administration.

National Maritime Day, May 22, 1942, was sponsored by the entire shipbuilding and Merchant Marine to focus attention on the contribution being made to the war effort by



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the industry and also to stimulate the production of new ships. The record of accomplishment on that day is amply indicated by the launching of 27 new vessels and the placing into service of four ships. The new West Coast yards again were in the lead and one yard delivered three Liberty ships and launched three. Two vessels each were launched in six yards throughout the country and one each was launched in 12 others.

On Feb. 9 it was announced that President Roosevelt had requested \$3,852,000 more from Congress to expand the Maritime Commission's merchant fleet, facilities, and the production of equipment and material required for the ship production program. The appropriation bill concerning these funds was signed by President Roosevelt on March 6, less than a month after the original request.

In April the Maritime Commission put into effect its decentralization program which provided immediate and close contact between shipbuilders and the supervisory staff of the Commission. Regional construction offices were established in Philadelphia, New Orleans, Oakland, and Chicago, each headed by a regional director.

### MARINE INSURANCE

A study of the fluctuations in the marine insurance business and the various factors which influence this important subsidiary of the Merchant Marine has historical, as well as immediate technical value. The Information Committee of the American Institute of Marine Underwriters disclosed that the American Cargo War Risk Reinsurance Exchange had a credit balance of \$10,014,186 on Sept. 30, 1942. This represented the difference between the net premium income, after all adjustments and exchange expenses, of \$171,629,459 and losses paid and outstanding of \$161,615,273 for the entire period of war-risk insurance exchange operations from June, 1939 to the end of September, 1942.

For the first nine months of 1942,

net income amounted to \$99,963,696, against losses of \$129,660,546, leaving a debit balance for this period of \$29,696,850. The latter is expected to be reduced by about \$20,000,000 of net outstanding premiums on business written under open contracts.

The American Marine Insurance Syndicate, which discontinued writing war-risk insurance early in the year, practically completed its war underwritings and showed on Sept. 30 a debit balance of \$24,263,427, the difference between net premium income of \$35,737,892 and incurred losses of \$60,001,319 for the period from June, 1939 to the end of September, 1942. Only four ships remained at risk at this time, with outstanding insurance of \$2,691,375.

From the inception of war-risk insurance in June 1939 to the end of September 1942, the insurance companies had insured cargoes and vessels for a total of \$16,579,876,000. Cargo liabilities for this period aggregated approximately \$12,770,433,000 and hull liabilities were \$3,809,443,000.

The peak of monthly losses, the result of ship sinkings, was reached in June, 1942, and since then the trend has been steadily downward. The effect of this trend was indicated by two general reductions in cargo war-risk rates and another partial reduction, the first downward revisions since Dec. 7, 1941. Ocean war-risk rates on cargo shipments now average between 12½ and 15 per cent, compared with 1 per cent before Pearl Harbor. The higher scale of rates, coupled with the reduction of from 50 to 75 per cent in liabilities, was expected to result in an improved margin of premiums over losses paid in the final months of 1942, offsetting the less favorable showing when ship sinkings were at their maximum peak.

The credit or debit balances resulting from the operations of the Cargo Exchange and the Marine Insurance Syndicate are spread among approximately 140 insurance companies which do all but a small portion of the private marine insurance business in the American market. These companies at the end of 1941 had an ag-



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gregate surplus for protection of policyholders of \$1,174,622,000, with cash and government security holdings of \$693,661,000.

The War Shipping Administration, on April 1, 1942, was authorized by law to write war-risk insurance at a nominal or other rate basis whenever, after consultation with the Office of Price Administration or other government agencies, it appeared that the providing of such insurance at such low rates would be of material benefit to the war effort or the domestic economy. This, according to the Director of Wartime Insurance of the War Shipping Administration, was placing the government agency in the position of deliberately incurring expenses which could not be self-liquidated, and which were only justified to the extent that they achieved a public benefit and contributed a definite objective; namely, the elimination of inflationary factors in the price structure. The War Shipping Administration, in the interest of the war effort, has been maintaining rates as near a compensatory level as possible, without prejudicing the objective, and limiting the amounts payable in the event of loss to a minimum consistent with such objective.

#### GREAT LAKES SHIPPING

The need for steel and more steel as the war program advanced increased the tonnage demands on Great Lakes shipping. The total of northern iron-ores shipped in 1941 was 80,116,360 gross tons. The previous record was 65,204,600 tons made in 1929. Three of the six American loading ports, and the one Canadian port, recorded all-time highs in 1941. Marquette, with 5,658,672 tons, was only slightly above its record of 5,486,289 tons set in 1940. Superior, with three loading docks, poured 27,745,737 tons of ore into ships, compared to the old high of 22,222,000 tons in 1937, and Two Harbors' 1941 total of 15,011,066 tons, compared with a former top figure of 10,736,000 set in 1916. Michipicoten, restored to activity by revival of Canadian min-

ing several years ago, loaded 461,575 tons compared to the old last figure of 369,000 tons in 1915. Shipments of Lake Superior district iron-ores rose to an all-time high in September, 1942, even though the total was cut down decidedly by stormy weather. These shipments totaled 11,847,919 gross tons railroad weights and were 14.9 per cent above the 10,311,517 tons shipped in the same month in 1941 which was a former all-time high. To Oct. 1 the 1942 season movement reached 72,441,453 tons which was 10,417,225 tons or 16.8 per cent above the 1941 season total to the same date of 62,024,228 tons.

About Sept. 7, 1942, the total production of iron-ore from the ranges in the Lake Superior region for lake and all-rail shipments reached a grand total of 2,000,000,000 gross tons.

The American iron-ore fleet on the Great Lakes rose to a total of 305 by Oct. 15, 1942, the largest number of ships in the fleet since the fall of 1938. Trip capacity of the fleet reached 2,803,090 gross tons and the size of the individual ships has increased to 640 feet. Five ore-carriers of this length were commissioned during the 1942 season.

The Coastwise shipping perils increased the sulphur shipments on the Great Lakes. The shipment of crude sulphur in 1942 may be double that of the 1941 season. From March 29 through Oct. 2, shipments of sulphur from Chicago to Lake ports and eastern Canada reached 246,700 tons compared with a record 160,000 tons in all of 1941. Sulphur transshipments from lake steamer to canal barge at Buffalo reached 134,761 tons on Oct. 2. The heavy canal tonnage reflects the location of major chemical plants in the East. The plants water-borne sulphur formerly came by Coastwise steamer from the Gulf Coast and never figured in the Great Lakes trade.

The loading of bituminous coal in lake vessels was slightly greater during the 1942 season up to Oct. 1, these shipments totaling 36,901,455 tons, as compared with the 1941 season total of 35,258,232 tons.

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Ships formerly operated on the Great Lakes were converted for war-time use as ocean shipping at a number of yards in the Gulf and elsewhere, according to reports released by the War Shipping Administration in September, 1942. The vessels, all built in the early nineteen hundreds, average about 4,000 gross tons and from 350 to 400 feet in length. The movement of these large vessels from the Lakes to the Gulf and Atlantic ports required the removal of their superstructures in order to permit passage under numerous bridges.

### SUMMARY OF THE WAR EFFORT

Chairman Donald M. Nelson of the War Production Board declared on Nov. 1, 1942 that the United States was producing war goods on a scale that approaches four times the rate at the time of Pearl Harbor. September figures showed the following increases in four important categories: airplanes, 10 per cent; ordnance, 7 per cent; Navy and Army vessels, 22 per cent; merchant ships, 10 per cent. These gains were not simply numerical increases, but were calculated on the basis which took into account the relative size of units and closely reflected the actual increased production. The 10 per cent increase reported in merchant ship construction, measured by the tonnage of vessels delivered, rose 34 per cent in the month and was 12 per cent ahead of the forecasts. The September production of 1,009,000 deadweight tons closely approached the total output of American merchant ships in 1941. On Oct. 16, Admiral Land, in his discussion on the "War Problems of the Merchant Marine," summed up the war effort and stated a few of the factors which have contributed to the success attained thus far, namely:—

1. Successful establishment of labor and management committees in the shipyards; a vital contribution to the production records which have been made.
2. Introduction of women workers into the shipyards. Their adap-

tation to the new types of work and the skill they have developed is full justification for their employment.

3. Inauguration of a scrap-salvage program in the shipyards which has made a fine contribution to the nation's scrap campaign and expedited return of otherwise waste materials to the mills for reprocessing.
4. Close coordination of Merchant Marine ship repair work with that of the Navy and an orderly allocation of repair yard capacity to keep the ships moving.
5. Allocation of Merchant Marine shipyard capacity to special ship construction for the Navy to expedite special phases of the war effort.
6. Expansion of the safety program for protection of workers in shipyards and on ships, and the initiation of additional safety features.
7. Introduction of methods, as an adjunct to the safety program, to provide for the health and hygiene of shipyard workers and Merchant Marine personnel.
8. Expansion of the program to create and perpetuate satisfactory and desirable labor relationships in shipyards, ports, and on Merchant Marine vessels. This resulted in a marked improvement in the efficiency of longshoremen, shipbuilders, and off-shore personnel.
9. Establishment of a Recruitment and Manning Division in the War Shipping Administration, with the resultant success of the recruiting drive.
10. Decentralization of the Maritime Commission's supervisory force and the establishment of four regional offices.
11. Establishment of a world-wide staff of War Shipping Administration representatives, which has made a fine contribution to the expediting of war cargo movements.

## XIII. MANUFACTURES AND TRANSPORTATION

### COMMERCIAL AVIATION

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#### GENERAL

The year 1942 saw almost every phase of commercial aviation become an integral part of the war effort. The immense value of the scheduled air transportation industry was conclusively proved when the Air Transport Command of the Army Air Forces assigned to the industry the colossal task of operating the largest international cargo network in the world. The routes extend to all of the many battle areas. It is expected that thousands of airplanes will be in regular scheduled operations to Asia, Africa, Europe, Australia, the South Pacific, and South America by the end of 1943.

Notwithstanding their increased responsibilities to the ATC the domestic airlines again chalked up impressive gains in revenue, passengers, mail, and particularly express. All this was accomplished with practically half the numbers of airplanes used in 1941. The more intensive use of remaining equipment, the elimination of sleeper airplanes and duplicating schedules, made it possible for the airlines to show net earnings somewhere between \$5,000,000 and \$6,000,000.

Airway traffic tripled, owing principally to the large volume of military traffic, but the airway traffic control system developed by the Civil Aeronautics Administration over a period of years became a vital cog in the war picture. Civil aircraft production converted to war models and its reservoir of trained personnel was hungrily absorbed by military aircraft manufacturing.

The Civilian Pilot Training program operated by the Civil Aeronautics Administration became one of the principal sources for the training of pilots, mechanics, and technicians needed in huge numbers by the AAF.

#### SCHEDULED AIR TRANSPORTATION MILEAGE

Since the air transportation industry ceased publishing operation details in March 1942 at the request of the Army no exact figures for mileage are available; however, four of the largest airlines reported generally that the total domestic mileage flown was only slightly less than that of the airplanes to the Army Air Forces, but TWA, with only 57 per cent of the airplanes it had in 1941, reported a mileage loss of 23 per cent; American Airlines, with less than half of its original number of airplanes, reported only a 13 per cent decrease in passenger miles. Under the same conditions United Air Lines announced a 7 per cent gain in revenue passenger miles in the first six months of 1942 over the same period in 1941; also, the average flight on United Air Lines rose to 716 miles contrasted with 548 miles in 1941. The increased length of trip was due largely to war traffic, both military and civilian. A total of approximately 170 airplanes was used in the regularly scheduled operations of the airlines, approximately half of their 1941 fleet.

The above listed mileage percentages do not include any of the airline operations under contract to the Air Transport Command. These operations extend to 60 different countries on four main routes—the West Coast to Australia and New Zealand, Alaska to Russia and China, South America to Africa, Egypt, India, and South Pacific, and last from the East Coast to Britain *via* Iceland. The airlines received additional airplanes toward the end of the year for these operations, and various estimates placed the total of domestic plus strictly war business airplanes at approximately 600. It is expected that thousands of cargo airplanes will be

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in operation by the close of 1943, in view of the fact that 30 per cent of all multi-engined planes produced in the first half of the year will be cargo ships. This global network aerial transportation to all the battle fronts is on a scale to stagger the imagination. The experience of all of the operators was used to best advantage in this tremendous expansion. In addition to the network outlined above the Navy was operating an Air Transport Service over sea routes only. The complete story of the extent of this emergency aerial transportation network will not be known until hostilities cease. The versatility of these operations was demonstrated when Pan American Airways in China evacuated 5,000 refugees from combat zones in DC-3 airplanes.

The only officially released figures for domestic revenue miles were those for 1941, and since this is the last normal year they are reproduced in this issue. Domestic air carriers then flew a total of 133,022,679 revenue miles, a 22.26 per cent increase over 1940. International and territorial revenue miles totalled 15,188,865, a 41.73 per cent increase over the previous year. The total of domestic, international, and territorial was 148,211,544 revenue miles, an increase of 24.01 per cent over 1940.

### FARES AND REVENUES

The average passenger fare for 1942 was 5.02 cents per mile, a rate almost without change since 1941 when it was 5.04 cents per mile. In effect, however, the fare actually increased owing to the elimination of the various discounts and commissions, such as the 15 per cent discount on scrip for one-way trips and the 10 per cent reduction on round trips. Also cancelled were the half fares for children, the 15 per cent discount for government agencies, and the commissions paid to ticket agencies.

Various estimates placed the net earnings of the air lines somewhere between \$5,000,000 and \$6,000,000 for 1942. While an unknown portion was derived from Army contracts, the

bulk of the revenue still came from passenger mail and express transportation, and the amounts were respectively \$70,000,000, \$22,000,000 and \$3,000,000. In terms of per cent the figures are 72 per cent for passenger operations, 23 per cent for mail, and 3 per cent for express. These proportions will be changed radically in 1943, since the principal function of the airlines will be the operation of global cargo services for the war effort.

Air mail rates, which are subject to review and revision by the Civil Aeronautics Board, were revised sharply downward in the case of four of the major operators in accordance with the basic policy that 8 per cent to 10 per cent is ample return after tax deductions; however, the Panagra Mail Rate case decision ruled that the excess profits would not be retroactive but the carrier was requested to use these excess earnings to serve and develop public air transportation. In no event were excess profits to be distributed as dividends.

In the case of Panagra the Board fixed a base rate of 39.38 cents per mile, which would result in an estimated annual saving to the Government of approximately \$700,000.

Pan American Airways mail rate was reduced in the same manner to 17.83 cents per revenue mile for the Latin American routes. The Board pointed out that increased war traffic in express, mail, and passengers resulted in constant heavy pay loads and excess profits of \$4,356,000 on an average investment of \$8,442,000 pending the rate hearings. As in the Panagra decision the Board did not order the recapture of the \$4,356,000, but indicated that reasonable earnings based on an investment of \$14,204,895 was \$1,420,490, (10 per cent) per year after payment of taxes.

In another order the Civil Aeronautics Board reduced the rate of mail payment to American Airlines Inc., effective from April 1, 1942, by \$1,333,000 a year. This new rate of .3 mill per pound mile was estimated to yield approximately \$2,500,000 mail per year. American was also strongly



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urged to give early consideration to a reduction in passenger fares.

The Eastern Airlines Inc. mail rate was also reduced to .3 mill per pound mile effective Oct. 1, 1942. Again an early reduction on passenger fares was suggested especially since Eastern's average fare per passenger mile was 5.27 cents as compared with the average of 5.02 cents for all of the airlines.

Practically all of the airlines showed substantial increases in earnings despite curtailed operations resulting from the Government's acquisition of approximately 50 per cent of their airplanes. The principal reasons for this paradox were (1) the greater load factor, (2) elimination of duplicating schedules, (3) reduction in frequency of schedules, (4) more intensive use of remaining aircraft, (5) reduction in overhead and administrative costs, (6) 100 per cent increase in express, and (7) government contracts. American Airlines profit of \$1,205,318 or 1.91 a share for the first six months of 1942 is 45 per cent greater than the earnings of \$866,717 in the same period of 1941. Transcontinental and Western Air Inc. earned \$498,216 (52¢ a share) in the same period contrasted with a loss of \$693,049 for the same interval in 1941.

#### PASSENGERS AND SCHEDULES

The lack of detailed revenue and operation figures since March of 1942 make it impossible to furnish accurate information pertaining to passenger transportation; however, approximately 900,000 passengers were carried in the first three months, an increase of 50 per cent over the same period in 1941. Passenger miles in the same period showed an increase of approximately 42 per cent. Only a few scattered reports give any indication of passenger traffic for the first six months. One of these, that of United Air Lines, showed a 7 per cent increase in revenue passenger miles over the same period 1941. The first six months of 1942 yielded 115,937,321 passenger miles compared with the 1941 first half figure of 108,668,855. This increase was accom-

plished despite the loss of a substantial number of planes to the Army. By elimination of sleeper planes, by adding stops to reduce gasoline loads, and by altering schedules to give a quicker turn around of ships, United was able to increase the use of seats per plane. Eastern Air Lines also reported generally that additional passengers were carried per plane, as a result of the same methods. Their average passenger load factor (percentage of seats occupied) ran around 80, whereas the previous year it had been in the neighborhood of 55 per cent.

The application of priorities gave preference to passengers on missions associated with defense industries or others on military assignments, but civilian passengers usually secured accommodations if reservations were made a week in advance. Despite the conditions noted it is estimated that a total of 3,500,000 passengers was carried on the domestic airlines in 1942.

Transoceanic transportation of passengers has been accepted by the majority of government and war officials as the only means compatible with the tempo of war. Mainline services around the world increased at a phenomenal rate. Again the entire story of the magnitude of these operations can not be told at this time.

In view of the reduced number of airplanes available for domestic schedules many short routes were discontinued and others were temporarily suspended. The number of round trips between points were also reduced in many cases. Short, not much traveled routes within an overnight ride by train from each other were also eliminated. The Chicago—New York trips were reduced from 33 to 20 round trips daily; New York to Boston, from 25 to 9; Washington to New York, from 52 to 16. Most of the short lines were hard hit in this respect but their equipment and experience was diverted to cargo operations more essential to the war effort.

## COMMERCIAL AVIATION

### AIR MAIL

The last reliable figures for mail operations were those for 1941 when domestic pound miles flown totalled 25,800,809,091, a 28.55 per cent increase over 1940. United Air Lines reported, however, a 58 per cent increase in mail pound miles for the first half of 1942 as compared with the same half of 1941. It is estimated that the total mail operations for 1942 were 30 to 40 per cent greater than for 1941.

The War Department reported that the Army Air Transport Command delivered more than 6,000,000 letters to soldiers stationed overseas. A total of 124,000 pounds of mail was flown across the oceans in one year. A good portion was sent as V-mail which results in a considerable saving in weight since V-mail averages 100 letters to the pound, whereas ordinary letters average only 38 to a pound. In V-mail several hundred letters are photographed on a single film. The rolls of film are flown across the ocean and delivered to V-mail stations where copies of the message are printed and delivered to the addressee.

All American Aviation Inc. continued its unique pick-up mail service with further advantages to business obtained by later schedules which make possible overnight delivery of mail to the West Coast from any one of its stations.

### AIR EXPRESS

Stimulated by the urgent needs of war production, air express celebrated its fifteenth birthday by almost a 100 per cent increase in poundage for the first nine months of 1942. Weight flown in this period amounted to 15,085,345 pounds, compared with 7,927,181 pounds for 1941. Number of shipments for the same period was 1,033,761 as against 947,760 in 1941, an increase of 9 per cent. Gross revenue was up 112 per cent. That this large increase was handled by airlines with approximately half the number of airplanes operated in 1941 attested to the efficiency and improved coordination of scheduled operations by all lines. TWA reported a 140.8 per cent increase in air

express poundage in the first six months of 1942.

Additional air express service direct to Mexico from more than 250 United States cities was put in operation during the year. The new service, an extension of the airline schedules to Monterey and Mexico City, has already proven its worth in the movement of vital materials between the United States and Mexico.

### AIR CARGO

The need for the quickest possible transportation of military cargo to the various battle areas brought the greatest expansion the world has seen in cargo. In fact the operations of cargo airplanes will be the greatest activity of all of the airlines. In August 1942 Panagra established the first regularly scheduled commercial all cargo service in the international field and with the withdrawal of steamer service in Latin America the airplane became the only means of transportation.

Many extravagant claims were advanced during the year based on the premises that air cargo would supplant rail and water transportation after the war, but the calm considered judgment of airline operators was unanimous in condemning such extravaganza and all agreed that air transportation will substantially augment surface means but not supplant them. The case was very clearly summarized by W. A. Patterson, president of United Air Lines, in a paper presented at the National Industrial Conference. Mr. Patterson stated that some of the conditions that must exist to justify shipment of freight by air were (1) an emergency must be met, (2) an opportunity must exist for substantial saving in warehousing and inventory costs, (3) commodities must have a high specific value to make possible worthwhile savings in financial and insurance costs, and (4) surface transport must be inadequate or non-existent.

Under the stimulus of the first and fourth reasons air cargo will undoubtedly be one of the greatest developments of the war. The design and

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production of huge airplanes for cargo operations exclusively should also result in much lower operating costs per ton mile, and costs of 10 cents to 12 cents per ton mile will probably be realized with some of the new equipment which will be available in 1943. The Glenn L. Martin Company has already designed such a cargo airplane with a gross weight of 250,000 pounds. Grover Loening, one of the nation's pioneer designers, had under consideration a 750,000 pound airplane.

Another phase of freight and personnel transportation which received tremendous impetus during 1942 was the towed glider train. The use and importance of glider trains for troop transportation has already been demonstrated many times in this war. The successful pick-up and towing of a light training airplane by All American Aviation Inc. on May 30, 1942 opened the way for the further development of the non-stop pick-up of transport gliders.

Richard C. DuPont, president of All American Aviation Inc., has predicted that large aerial freight trains flying back and forth across the country, releasing and picking up cargo-laden gliders at communities off the beaten path of trunk air lines, will be definitely in the post-war picture. The non-stop pick-up of such gliders by a tow plane, which will correspond to the locomotive of the railroads, will enable those communities, lacking adequate airport facilities, to enjoy the advantages of air transportation. On June 18, the Army Air Force announced that All American's pick-up system would be used to accelerate the glider pilot training program.

#### AIR TRANSPORT COMMAND

The increasing demands of the war on global air transportation of cargo passengers and mail to the many fighting fronts made the Air Transport Command operations greater than all of the commercial lines put together. In mid-summer these operations were turned over to the domestic airlines for further expansion.

The routes literally cover the world, and one in particular is 17,000 miles long. Thousands of multi-engined cargo airplanes will be added to this world-wide network in 1943 and they will serve such points as Africa, India, Egypt, South America, Australia, England, Russia, China, New Zealand, Alaska, and Siberia. Since its inauguration, the ATC has used the experience and personnel of the airlines in building the greatest airline organization in the world.

When Major General Harold L. George was named commanding general of the ATC the first thing he did was to call more than 100 outstanding men from the airlines and ask them to fit their ability and experience against the ATC problems. They were men like C. K. Smith from American Air Lines, Robert J. Smith from Braniff, Larry Fritz from TWA, Ray Ireland from United, and many others of similar caliber.

It was predicted in official quarters that thousands of cargo airplanes will be flying the international network at the end of 1943. Some idea of the magnitude of the operations may be had by recalling the fact that the domestic airlines used only 170 airplanes in their operations in 1942. An on-the-hour-service will be maintained with England by TWA and American 24 hours a day, seven days a week. United Air Lines and Pan American will serve Australia and India with a three-a-day schedule. The smaller airlines were scheduled to supply transportation to the Americas and Alaska.

Towards the end of 1942 the airlines received approximately 300 new cargo airplanes as a start for their expanded operations under contract to the ATC. In 1943 they will receive 30 per cent of all multi-engined planes allocated for cargo airplanes. The total number of airplanes in this service by the end of 1943 will be well in the thousands. Needless to say the operational experience gained by this mammoth undertaking will be the greatest asset of the airlines after the war. At the end of 1942 the new cargo airplanes were already a vital



## COMMERCIAL AVIATION

factor in the critical problem of transportation and supply.

### AIRWAYS TRAFFIC AND AIRPORTS

Aircraft operations on the airways of the nation tripled within a year. With the commissioning of the last nine new airway traffic control centers, the CAA now has its entire 35,000 miles of airways controlled from 23 centers spotted about the country. Each of these centers handled an average of 27,000 operations in March, compared with 8,000 handled in the same month in 1941 by each of the 14 centers then functioning. The increase was due primarily to the large amount of military flying along the airways. Over 70 per cent of the traffic during the year was due to military aircraft while only 17 per cent was chargeable to airlines.

Extending its coverage of airplane movements from ramp to ramp at the request of the War Department, the CAA was operating 62 airport traffic control towers. Of these, 25 were newly established towers at airports, where none was formerly maintained, and 37 were taken over from municipalities.

All data relative to the number, type, and locations of airports was relegated to the secret category. Some idea of the status in 1941 may be obtained from reference to the issue of THE AMERICAN YEAR BOOK for that year.

### AIRCRAFT PRODUCTION

The aircraft industry, with 640,000 people on the payrolls at the end of 1942, produced 49,000 military airplanes during the year. This was over 100 per cent higher than the number produced in 1941. While this was short of the goal of 60,000 originally planned it must be remembered that the program was changed in the direction of heavier and larger airplanes. The actual tonnage increase in weight of airplanes was 300 per cent greater than that of 1941.

The two greatest problems confronting the industry were materials and personnel. Nationwide training

programs in cooperation with Federal, state, and local educational institutions were inaugurated to furnish the necessary preemployment training. Practically all of the manufacturers followed this program with an intensive, specialized plant training period. Upon completion of this second stage the trained was put to work at his specialized assignment. In many cases a third stage of advanced training for group leaders follow for those who show such aptitude. Women are being used wherever possible with considerable success, and their number increased 2,575 per cent during the year.

The types of airplanes produced varied in size and purpose from the two-place liaison flivver planes to the large four-engined bombers and cargo airplanes. Emphasis shifted more and more towards production of the heavy bombers and large cargo airplanes. Many of the latter type will be constructed of plywood to conserve critical materials. With the Midwest plants coming into production it is expected that the goal of 100,000 airplanes for 1943 will be achieved.

### PILOT AND MECHANICS TRAINING

The Civil Aeronautics Administration continued its accelerated pilot training program and in addition undertook to train 25,000 mechanics. The program for the fiscal year called for the training of 33,350 pilots, of which 13,350 will be for the Army and 20,000 for the Navy. The various pilot training phases given are listed as elementary, secondary, cross country, link instrument, instructor, and liaison.

In addition CAA started the training of three classes of pilots for the Army Ferrying Command at the CAA Standardization Center in Houston, Tex. Students are given concentrated instruction in instrument and over-weather flying in multi-motored equipment and are taught to fly by dead reckoning as well as by radio to insure successful delivery of Army aircraft regardless of weather or other unusual conditions aloft.



### XIII. MANUFACTURES AND TRANSPORTATION

The President signed a bill in July amending the Civilian Pilot Training Act to provide for the training of civilian aircraft mechanics. Late in the year the Civil Aeronautics Administration had plans for training 25,000 aircraft mechanics and technicians during 1943. The program will utilize the instructional and shop facilities of 55 approved mechanic schools and over 200 approved repair stations.

#### CIVIL AIR PATROL

The Civil Air Patrol went on active duty, flying about 2,000,000 miles a month in coastal patrol work in 1942. Dean Landis, director of the Office of Civilian Defense, stated in testimony before the Senate that at least 25 merchant vessels had been saved from being torpedoed by the appearance over the water of CAP planes. Submarines prowling the Atlantic Coast have crash dived when spotted by Patrol airplanes. The CAP has also been instrumental in locating survivors from sunken ships. While details are cloaked in secrecy there is reason to believe that this phase of the CAP's activities is a distinct aid in the fight against the submarine; however, Eastern CAP wings were severely restricted by an Army Order banning all civil flying in an area running from 40 to 70 miles inland from the Canadian border to North Carolina.

#### ROTATING WING AIRCRAFT

The spectacular performance of the VS-300 Sikorsky helicopter in 1942 again focused attention on rotating wing aircraft and their possibilities for military and private use. Featuring takeoff and landing without any ground run it could hover over one spot for any length of time. Precision control and direction of the aircraft in any direction in a vertical or horizontal plane was demonstrated in many flights. Mounted on pneumatic floats the aircraft again showed remarkable control and ability to rise vertically from either water or land. While the original model had one main three-bladed rotor of 14-foot

diameter and two additional smaller rotors mounted on outriggers on the either side of the tail of the fuselage plus a tail propeller rotating in a vertical plane, the latest model had only the main rotor plus a tail propeller rotating in a vertical plane. Powered with a 90-horsepower Franklin aircooled engine the aircraft attained a high speed of 60 miles per hour.

The Platt LePage Aircraft Company continued tests of their military type helicopter under a contract from the Army Air Corps, but the design features as well as performance are a military secret.

#### RESEARCH

Long-term research programs have given way in many cases to the development type of research associated with the design or modification of current military airplanes. In this manner it has been possible to incorporate the results of research in current production aircraft, thus making them more efficient military machines. It is evident from the reports from virtually every battlefield that vast quantities of airplanes are not enough if they are inferior in performance. The value of superior speed, climb, and maneuverability can not be underestimated, and the program of the National Advisory Committee for Aeronautics has been one of close collaboration with the aircraft industry, the Army, and the Navy.

The search for the ideal low-drag wing section continued and some of the findings translated into increased performance of some of the current fighter planes. The investigation of high-lift devices such as various types of flaps was accelerated more than ever before. In addition, the study of cowlings and cooling of both aircooled and liquid-cooled engines began to yield appreciable practical gains in speed. New propeller blade sections and plan forms were developed to keep losses at the high speeds down to a minimum. Both theoretical studies and wind tunnel tests were necessary to arrive at a

## PERIODICAL PUBLICATIONS

practical solution. The demand for greater altitude performance also accelerated research into supercharges, intercoolers, and their ducts.

An \$18,000,000 aircraft engine research laboratory built by the National Advisory Committee for Aeronautics went into operation late in the year. The facilities include an engine research building, an engine research wind tunnel, fuel and lubrication building, flight research hangar, and an ice tunnel, as well as a building for engine propeller research. The principal objectives are to increase the horse-power output, economy, and critical altitude of aircraft engines. The low temperature and pressures of the stratosphere are reproduced in the tunnel for the con-

trolled study of these effects on all phases of engine operation. The ice tunnel permits the study of ice formations on the various exposed parts of an airplane. Considerable study was directed towards a better method of deicing than the usual pulsating rubber boots attached to the leading edge of wings and tail surfaces, but the most important objective of this engine laboratory is that of increasing the specific power output of engines without any appreciable increase in weight or drag. The importance of research in the war effort has been demonstrated on all of the battlefronts and these facilities for research will be harnessed to the war effort for the duration.

## PERIODICAL PUBLICATIONS

*Aviation*  
330 West 42nd Street, New York City.

*Bus Transportation*  
330 West 42nd Street, New York City.

*Electrical Communication*  
67 Broad Street, New York City.

*Electrical World*  
330 West 42nd Street, New York City.

*Journal of the Aeronautical Sciences*  
30 Rockefeller Plaza, New York City.

*Manufacturers News*  
120 South La Salle Street, Chicago.

*Manufacturers Record*  
Baltimore, Md.

*Marine Age*  
75 West Street, New York City.

*Marine Engineering & Shipping Review*  
30 Church Street, New York City.

*Marine Journal*  
5 Beekman Street, New York City.

*Marine News*  
26 Water Street, New York City.

*Marine Progress*  
95 Broad Street, New York City.

*Mass Transportation*  
431 South Dearborn Street, Chicago.

*National Aeronautic*  
Dupont Circle, Washington, D. C.

*Popular Aviation*  
608 South Dearborn Street, Chicago.

*Protectionist*  
38 Chauncy Street, Boston.

*Railway Age*  
30 Church Street, New York City.

*S.A.E. (Journal of the Society of Automotive Engineers)*  
29 West 39th Street, New York City.

*Shipping Digest*  
16 Bridge Street, New York City.

*Transit Journal*  
330 West 42nd Street, New York City.

### XIII. MANUFACTURES AND TRANSPORTATION

#### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

##### MANUFACTURERS

AMERICAN ASSN. OF CREAMERY BUTTER MANUFACTURERS, 110 N. Franklin St., Chicago, Ill.  
AMERICAN AUTOMOBILE ASSN., Pennsylvania Ave. at 17th St., Washington, D. C.  
AMERICAN BOTTLEERS OF CARBONATED BEVERAGES, 224 Southern Building, Washington, D. C.  
AMERICAN BRUSH MANUFACTURERS ASSN., 505 Arch St., Philadelphia, Pa.  
AMERICAN HARDWARE MANUFACTURERS ASSN., 342 Madison Ave., New York City.  
AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC., 101 Park Ave., New York City.  
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.  
AMERICAN PAPER AND PULP ASSN., 122 E. 42nd St., New York City.  
AMERICAN PETROLEUM INSTITUTE, 50 W. 50th St., New York City.  
AMERICAN ZINC INSTITUTE, 60 E. 42nd St., New York City.  
AUTOMOTIVE MANUFACTURERS ASSN., 366 Madison Ave., New York City.  
MELLON INSTITUTE OF INDUSTRIAL RESEARCH, University of Pittsburgh, Pittsburgh, Pa.  
NATIONAL AMERICAN WHOLESALE LUMBER ASSN., 41 E. 42nd St., New York City.  
NATIONAL ASSN. OF COTTON MANUFACTURERS, 80 Federal St., Boston, Mass.  
NATIONAL ASSN. OF ICE INDUSTRIES, 228 N. La Salle St., Chicago, Ill.  
NATIONAL ASSN. OF MANUFACTURERS, 14 W. 49th St., New York City.  
NATIONAL ASSN. OF WOOL MANUFACTURERS, 80 Federal St., Boston, Mass.  
NATIONAL ELECTRICAL CONTRACTORS ASSN., 420 Lexington Ave., New York City.  
NATIONAL ELECTRICAL MANUFACTURERS ASSN., 155 E. 44th St., New York City.

NATIONAL FEDERATION OF TEXTILES INC., 15 W. 37th St., New York City.  
NATIONAL LUMBER MANUFACTURERS ASSN., 1337 Connecticut Ave., Washington, D. C.  
NATIONAL MACHINE TOOL BUILDERS ASSN., 1220 Guarantee Title Bldg., Cleveland, O.  
NATIONAL METAL TRADES ASSN., 60 E. 42nd St., New York City.  
RUBBER MANUFACTURERS ASSN., 444 Madison Ave., New York City.  
UNITED STATES BREWERS ASSN., 21 E. 40th St., New York City.  
UNITED TYPOTHETAE OF AMERICA, Tower Building, 719 Fifteenth St., N.W., Washington, D. C.

##### TRANSPORTATION AND COMMUNICATION

AERIAL LEAGUE OF AMERICA, 570 Lexington Ave., New York City.  
AMERICAN ASSN. OF RAILROAD SUPERINTENDENTS, 111 Union Station, St. Louis, Mo.  
AMERICAN IMPORTERS, INC., 45 E. 17th St., New York City.  
AMERICAN RAILWAY ENGINEERING ASSN., 59 E. Van Buren St., Chicago, Ill.  
AMERICAN ROAD BUILDERS ASSN., 1319 F Street, N.W., Washington, D. C.  
AMERICAN STEAMSHIP OWNERS MUTUAL PROTECTION AND INDEMNITY ASSN., INC., 64 Water St., New York City.  
AMERICAN TRANSIT ASSN., 292 Madison Ave., New York City.  
ASSOCIATED TRAFFIC CLUBS OF AMERICA, Sec. L. B. Freeman, 105 W. Adams St., Chicago, Ill.  
ASSOCIATION OF AMERICAN RAILROADS, Transportation Building, 17th and H Streets, Washington, D. C.  
CRUFT LABORATORY, Harvard University, Cambridge, Mass.  
INTERNATIONAL AMATEUR RADIO UNION, 38 La Salle Rd., West Hartford, Conn.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

MARITIME ASSN. OF THE PORT OF NEW YORK, 80 Broad St., New York City.	NORTH AMERICAN EXPORT GRAIN ASSN., INC., 2 Broadway, New York City.
NATIONAL AERONAUTIC ASSN., The Willard Hotel, Washington, D. C.	RAILROAD OWNERS ASSN., 502 Chandler Bldg., Washington, D. C.
NATIONAL HIGHWAYS ASSN., Bass River, Cape Cod, Mass.	RAILWAY BUSINESS ASSN., 38 S. Dearborn St., Chicago, Ill.
NATIONAL INDUSTRIAL TRAFFIC LEAGUE, 1 La Salle Street Bldg., Chicago, Ill.	UNITED STATES BUREAU OF STANDARDS, Washington, D. C.
NATIONAL TRAFFIC SERVICE ASSN., 204 Franklin St., New York City.	UNITED STATES NAVAL RESEARCH LABORATORY, Washington, D. C.



# PART FIVE

## SOCIAL AIMS AND CONDITIONS

### DIVISION XIV

#### POPULATION AND MIGRATION

##### POPULATION STATISTICS

BY LEON E. TRUESDELL

CHIEF STATISTICIAN FOR POPULATION, U. S. BUREAU OF THE CENSUS

##### POPULATION GROWTH

The population of continental United States on Jan. 1, 1942 (including men in the armed forces abroad) was estimated at 133,965,000. This figure represents an increase of 1,327,000 over the estimated 132,638,000 on Jan. 1, 1941, and an increase of 2,296,000 over the census population of April 1, 1940. The increase of 1,327,000 during the year 1941 was almost 50 per cent greater than the average annual increase (about 889,000) between the censuses of 1930 and 1940.

This recent acceleration in the rate of population growth results mainly from a rise in the birth rate. During the calendar year 1941 there were registered 2,513,427 births, as compared with an annual average of about 2,170,000 between 1930 and 1940. The increase in the number of births is attributable mainly to business prosperity induced by defense activity and to anticipation of conscription and the entry of the United States into the war. The number of deaths in 1941 was about the same as the annual average for the last 10 years. Net immigration from foreign countries during 1941 amounted to about 40,000 as compared with an average net emigration of 5,000 per year for the decade 1930-

40. Even 40,000, however, represents a negligible fraction of the year's population increase.

The number of births during the year 1942, on the basis of preliminary returns, seems likely to exceed the number in 1941 by about 250,000, with the number of deaths remaining about the same. Conditions during 1943, however, bid fair to be less favorable to population increase, and with several million men in the armed forces, many of them stationed abroad, it seems likely that the birth rate will drop abruptly, as it did during the last war. The civilian death rate will probably not increase much in the next year or so, but military mortality is likely to become an important factor. Population growth, therefore, is likely to be less and less rapid as the war proceeds.

On the assumption that the population trends in effect up to 1940 would continue, it was estimated that the population of continental United States would be about 141,000,000 in 1950, 147,000,000 in 1960, 151,000,000 in 1970, and 153,000,000 in 1980, and that at some time during the decade following 1980 the growth of the population of the United States would reach its maximum and perhaps begin a slow decline. The rather unex-

## POPULATION STATISTICS

pected increases during the years 1941 and 1942 may call for a slight upward revision in these forecasts of population growth in future decades, though it is quite possible that the adverse effects of the war on population increase may completely offset the factors which for the time being accelerate the rate of growth.

The most significant data on births and deaths which need to be considered in any study of probable future trends in population growth are presented in the following table which gives for each year from 1920 to 1941 the number of births and deaths reported from the registration states (which since 1933 have included all the states), the annual rates per 1,000 of the population, and a three-year

moving average of these rates. Estimated totals for the United States are also given (in thousands) for the years from 1920 to 1933; and in the final column the excess of births over deaths or the amount of the recorded natural increase in the population. (In making the population estimates for 1941 and 1942 which are presented above, allowances were made for under-registration of births and deaths, amounting to about 8 per cent for births and 3 per cent for deaths.)

### SEX DISTRIBUTION

In the population of the United States in 1940 there were 66,061,592 males and 65,607,683 females, or 100.7 males per 100 females, as compared with 102.5 males per 100 females in

**TABLE 1. BIRTHS AND DEATHS IN THE REGISTRATION STATES:  
1920 to 1941**

[The birth registration States included 59.7 per cent of the total population of the country in 1920 and the death registration States 80.9 per cent; in 1933 both areas had been extended to include the entire country.]

Year	Births Registered			Deaths Registered			United States Totals, Partly Estimated for Years Prior to 1933 (thousands)		
	Number of Births	Rate per 1,000 of Population		Number of Deaths	Rate per 1,000 of Population		Births	Deaths	Excess of Births Over Deaths
		Annual	3-Year Moving Average		Annual	3-Year Moving Average			
1941.....	2,513,427	18.9	...	1,397,642	10.5	...	2,513	1,398	1,115
1940.....	2,360,399	17.9	18.0	1,417,269	10.7	10.6	2,360	1,417	943
1939.....	2,265,588	17.3	17.6	1,387,897	10.6	10.6	2,266	1,388	878
1938.....	2,286,962	17.6	17.3	1,381,391	10.6	10.8	2,287	1,381	906
1937.....	2,203,337	17.1	17.1	1,450,427	11.3	11.2	2,203	1,450	753
1936.....	2,144,790	16.7	16.9	1,479,228	11.6	11.3	2,145	1,479	666
1935.....	2,155,105	16.9	16.9	1,392,752	10.9	11.2	2,155	1,393	762
1934.....	2,167,636	17.2	16.9	1,396,903	11.1	10.9	2,168	1,397	771
1933.....	2,081,232	16.6	17.1	1,342,106	10.7	10.9	2,081	1,342	739
1932.....	2,074,042	17.4	17.3	1,293,269	10.9	10.9	2,178	1,358	820
1931.....	2,112,760	18.0	18.1	1,307,273	11.1	11.1	2,231	1,372	859
1930.....	2,203,958	18.9	18.6	1,327,240	11.3	11.4	2,327	1,393	934
1929.....	2,169,920	18.8	19.1	1,369,757	11.9	11.7	2,291	1,446	845
1928.....	2,233,149	19.7	19.7	1,361,987	12.0	11.7	2,368	1,444	924
1927.....	2,137,836	20.5	20.2	1,211,627	11.3	11.8	2,439	1,347	1,092
1926.....	1,856,068	20.5	20.8	1,257,256	12.1	11.7	2,410	1,422	988
1925.....	1,878,880	21.3	21.3	1,191,899	11.7	11.8	2,465	1,353	1,112
1924.....	1,930,614	22.2	21.9	1,151,076	11.6	11.8	2,532	1,323	1,209
1923.....	1,792,646	22.1	22.2	1,174,065	12.1	11.8	2,475	1,358	1,117
1922.....	1,774,911	22.3	22.9	1,083,952	11.7	11.8	2,455	1,287	1,168
1921.....	1,714,261	24.2	23.4	1,009,673	11.5	12.1	2,628	1,248	1,380
1920.....	1,508,874	23.7	...	1,118,070	13.0	...	2,526	1,383	1,143

## XIV. POPULATION AND MIGRATION

1930 and 106 in 1910, the year of maximum excess of males. In absolute numbers there were 453,909 more males than females in 1940, as compared with 1,499,114 in 1930 and 2,692,288 in 1910.

The relative numbers of males and females differed widely among the different population classes. In the native white population the number of males and females was almost equal, the ratio being 100.1, while

among the foreign born white there were 602,892 more males than females, with a ratio of 111.1. In the Negro population, by way of contrast, there was an excess of females, amounting to 327,442, and a sex ratio of 95. For all the population classes the number of males was smaller in proportion to the number of females in 1940 than in 1930, as indicated by the figures in the following table.

**TABLE 2. POPULATION OF THE UNITED STATES BY SEX AND NATIVITY: 1940 AND 1930**

Item	All Classes	White			Negro	Other Races
		Total	Native	Foreign Born		
Population, 1940...	131,669,275	118,214,870	106,795,732	11,419,138	12,865,518	588,887
Male.....	66,061,592	59,448,548	53,437,533	6,011,015	6,269,038	344,006
Female.....	65,607,683	58,766,322	53,358,199	5,408,123	6,596,480	244,881
Population, 1930...	122,775,046	110,286,740	96,303,335	13,983,405	11,891,143	597,163
Male.....	62,137,080	55,922,528	48,420,037	7,502,491	5,855,669	358,883
Female.....	60,637,966	54,364,212	47,883,298	6,480,914	6,035,474	238,280
Excess of Males:						
1940.....	453,909	682,226	79,334	602,892	*327,442	99,125
1930.....	1,499,114	1,558,316	536,739	1,021,577	*179,805	120,603
Males per 100 females:						
1940.....	100.7	101.2	100.1	111.1	95.0	140.5
1930.....	102.5	102.9	101.1	115.8	97.0	150.6

\* Excess of females.

### AGE DISTRIBUTION

The age distribution of the population, urban and rural, is shown in Table 3. The effect of the gradual decline in the annual number of births in recent years is clearly shown in the figures for the first four 5-year age periods, representing persons born between 1920 and 1940, there being something over 12,300,000 persons 15 to 19 years of age (born 1920 to 1924); 11,700,000, 10 to 14 years old; 10,700,000, 5 to 9 years old; and only about 10,500,000 under 5 years. The special age groups shown at the bottom of the table provide another illustration of the trend in terms of single years, namely, 2,422,519 age 15 (born for the most part in 1925), 2,142,407 age 5, and only 2,020,174 under 1 year of age.

The most evident difference in age distribution between the rural-farm population and the urban population is the much larger proportions of persons under 20 years old in the rural-farm and the somewhat larger proportions from 20 years upward, especially from 20 to 54, in the urban. Children under 5 represented 10 per cent of the rural-farm population, as compared with 6.7 per cent of the urban, and children 5 to 9, similarly, 10.4 per cent of the rural-farm and 6.8 per cent of the urban. Persons from 10 to 14 and from 15 to 19 likewise represented more than 11 per cent of the rural-farm population and materially less than 9 per cent of the urban. (Urban population is defined in general as that residing in cities and other incorporated places having

# POPULATION STATISTICS

**TABLE 3. AGE OF THE URBAN AND RURAL POPULATION OF THE UNITED STATES: 1940**

Age	Total		Urban		Rural-nonfarm		Rural-farm	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
All ages.....	131,669,275	100.0	74,423,702	100.0	27,029,385	100 0	30,216,188	100.0
Under 5 years...	10,541,524	8.0	5,007,137	6.7	2,522,831	9.3	3,011,556	10.0
5 to 9 years.....	10,684,622	8.1	5,083,240	6.8	2,446,807	9.1	3,154,575	10.4
10 to 14 years....	11,745,935	8.9	5,854,770	7.9	2,503,567	9.3	3,387,598	11.2
15 to 19 years....	12,333,523	9.4	6,493,936	8.7	2,483,112	9.2	3,356,475	11.1
20 to 24 years....	11,587,835	8.8	6,755,377	9.1	2,319,310	8.6	2,513,148	8.3
25 to 29 years....	11,096,638	8.4	6,725,909	9.0	2,299,920	8.5	2,070,809	6.9
30 to 34 years....	10,242,388	7.8	6,286,218	8.4	2,132,330	7.9	1,823,840	6.0
35 to 39 years....	9,545,377	7.2	5,906,293	7.9	1,896,310	7.0	1,742,774	5.8
40 to 44 years....	8,787,843	6.7	5,490,678	7.4	1,647,317	6.1	1,649,848	5.5
45 to 49 years....	8,255,225	6.3	5,107,261	6.9	1,502,701	5.6	1,645,263	5.4
50 to 54 years....	7,256,846	5.5	4,419,140	5.9	1,313,341	4.9	1,524,365	5.0
55 to 59 years....	5,843,865	4.4	3,462,821	4.7	1,084,568	4.0	1,296,476	4.3
60 to 64 years....	4,728,340	3.6	2,758,293	3.7	910,613	3.4	1,059,434	3.5
65 to 69 years....	3,806,657	2.9	2,152,883	2.9	786,338	2.9	867,436	2.9
70 to 74 years....	2,569,532	2.0	1,455,824	2.0	561,577	2.1	552,131	1.8
75 and over.....	2,643,125	2.0	1,463,922	2.0	618,743	2.3	560,460	1.9
Under 1 year....	2,020,174	1.5	983,268	1.3	484,329	1.8	552,577	1.8
5 years.....	2,142,407	1.6	997,893	1.3	507,509	1.9	637,005	2.1
14 years.....	2,405,730	1.8	1,212,120	1.6	499,568	1.8	694,042	2.3
15 years.....	2,422,519	1.8	1,237,642	1.7	497,963	1.8	686,914	2.3
16 and 17 years..	4,892,170	3.7	2,528,305	3.4	985,435	3.6	1,378,430	4.6
21 and over.....	83,996,629	63.8	50,651,430	68.1	16,607,454	61.4	16,737,745	55.4
Median age:								
1940.....	29.0	...	31.0	...	27.7	...	24.4	...
1930.....	26.5	...	28.4	...	25.8	...	21.6	...

2,500 inhabitants or more, the remainder being classified as rural. The rural-farm population comprises all persons living on farms in rural territory, without regard to occupation, and the rural-nonfarm population comprises the remaining rural population.)

These differences in age distribution are conveniently summarized in the median ages. (The median age is that age which divides the population into two equal groups, one being older than the median and the other younger.) The median age of the urban population in 1940 was 31, that of the rural-farm 24.4, and that of the rural-nonfarm, which in many respects stands midway between urban and rural-farm, 27.7. All of these medians represent a considerable increase over the corresponding figures for 1930. The median age of the total population in 1940 was 29, as compared with 26.5 in 1930, while the 1940

medians for the urban-rural areas just cited represent increases over 1930 as follows: Urban 2.6 years, rural-nonfarm 1.9 years, and rural-farm 2.8 years.

## SCHOOL ATTENDANCE

The school attendance data for 1940 are derived from the replies to the census enumerator's inquiry as to whether the person had attended or been enrolled in any school, college, or other educational institution that was a part of the regular school system at any time during the month of March, 1940. The statistics are presented for the United States and for urban and rural areas in Table 4.

The school attendance rate varies widely among the different age groups from 5 to 24. The 18 per cent of 5-year-old children attending school were practically all in kindergarten, an institution which in many areas does not exist. The proportion at-



# XIV. POPULATION AND MIGRATION

**TABLE 4. POPULATION 5 to 24 YEARS OLD BY SCHOOL ATTENDANCE: 1940**

Area and Age	Total Number	Attending School	
		Number	Per Cent
United States			
Total, 5 to 24	46,351,915	26,759,099	57.7
5 years . . . . .	2,142,407	385,160	18.0
6 years . . . . .	2,054,385	1,420,051	69.1
7 to 9 years . . . .	6,487,830	6,119,026	94.3
10 to 13 years . . .	9,340,205	8,915,669	95.5
14 years . . . . .	2,405,730	2,224,670	92.5
15 years . . . . .	2,422,519	2,122,995	87.6
16 and 17 years . .	4,892,170	3,361,206	68.7
18 and 19 years . .	5,018,834	1,449,485	28.9
20 years . . . . .	2,367,042	294,962	12.5
21 to 24 years . . .	9,220,793	465,875	5.1
Urban			
Total, 5 to 24	24,187,323	14,218,641	58.8
5 years . . . . .	997,893	286,295	28.7
6 years . . . . .	954,448	760,354	79.7
7 to 9 years . . . .	3,130,899	3,028,339	96.7
10 to 13 years . . .	4,642,650	4,522,237	97.4
14 years . . . . .	1,212,120	1,163,207	96.0
15 years . . . . .	1,237,642	1,156,359	93.4
16 and 17 years . .	2,528,305	1,912,468	75.6
18 and 19 years . .	2,727,989	865,320	31.7
20 years . . . . .	1,333,189	192,886	14.5
21 to 24 years . . .	5,422,188	331,176	6.1
Rural- Nonfarm			
Total, 5 to 24	9,752,796	5,628,200	57.7
5 years . . . . .	507,509	55,607	11.0
6 years . . . . .	476,098	306,940	64.5
7 to 9 years . . . .	1,463,200	1,384,927	94.7
10 to 13 years . . .	2,003,999	1,920,074	95.8
14 years . . . . .	499,568	463,864	92.9
15 years . . . . .	497,963	434,695	87.3
16 and 17 years . .	985,435	666,374	67.6
18 and 19 years . .	999,714	275,212	27.5
20 years . . . . .	465,614	49,764	10.7
21 to 24 years . . .	1,853,696	70,743	3.8
Rural-Farm			
Total, 5 to 24	12,411,796	6,912,258	55.7
5 years . . . . .	637,005	43,258	6.8
6 years . . . . .	623,839	352,757	56.5
7 to 9 years . . . .	1,893,731	1,705,760	90.1
10 to 13 years . . .	2,693,556	2,473,358	91.8
14 years . . . . .	694,042	597,599	86.1
15 years . . . . .	686,914	531,941	77.4
16 and 17 years . .	1,378,430	782,364	56.8
18 and 19 years . .	1,291,131	308,953	23.9
20 years . . . . .	568,239	52,312	9.2
21 to 24 years . . .	1,944,909	63,956	3.3

7 to 9 years old. School attendance is not compulsory in most states until age 7. The attendance rate was highest (95.5) in the age group from 10 to 13. In a majority of the states, school attendance is compulsory until the sixteenth birthday, but after the fourteenth birthday there are usually frequent exemptions for such reasons as the securing of a work permit or the completion of a minimum amount of education. The proportion attending school in 1940 was above 90 per cent from age 7 through age 14 and just under 90 per cent at age 15. After this age, the progressively lower rates reflect the fact that young persons had left school to enter the labor force or to marry. In the group aged 21 to 24 years only 5.1 per cent were in school, these persons being mainly in the later years of college and in graduate and professional schools.

As between urban and rural areas, the most striking difference in school attendance occurred among 5-year olds, the proportion attending school during March, 1940 being 28.7 per cent for the urban residents, 11 per cent for rural-nonfarm residents, and only 6.8 per cent for those on rural farms. These differences undoubtedly reflect the more extensive provision of kindergarten facilities in urban areas. The differences at age 6 were also large. From 7 to 13, the usual ages of compulsory school attendance without exemptions, the differences were relatively small and all rates were above 90 per cent. The rate was above this level through age 15 in urban areas and through 14 in rural-nonfarm areas. Relative differences among the rates for the three areas were progressively larger at ages when school attendance is no longer usually compulsory.

## EDUCATION

With every successive census the returns from the question on ability to read and write have shown a decrease in the proportion of illiterates. By 1940 illiteracy was so near the vanishing point in most states, except in the older population in some special classes, that a question on the

tending school was 69.1 per cent at age 6 and 94.3 per cent for the group

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highest grade of formal schooling completed was substituted, with the object of measuring at least approximately the whole range of educational attainment among the American people. A summary of the returns from this question with respect to the white population, expressed in terms of the median number of years of school completed, is presented in Table 5.

**TABLE 5. MEDIAN NUMBER OF YEARS OF SCHOOL COMPLETED BY THE WHITE POPULATION 25 YEARS OLD AND OVER, BY NATIVITY: 1940**

Age	Total White	Native	Foreign Born
Total, 25 and over.....	8.6	8.8	7.3
25 to 34 years...	10.5	10.6	8.6
35 to 44 years...	8.7	8.9	7.7
45 to 54 years...	8.2	8.5	7.0
55 to 64 years...	7.9	8.2	7.0
65 and over.....	7.6	7.8	7.1

The median number of school years completed by the total white population 25 years old and over was 8.6, this representing an average between 8.8 for the native white population and 7.3 for the foreign born. The most significant variations shown in Table 5 are, however, those based on

age. The median number of school years completed by the population in the youngest group, those 25 to 34 years old, was 10.5; for the next older group, those 35 to 44, the median was 8.7, with a gradual, though less rapid, decrease for the groups successively older. These figures reflect, of course, the improvement in school facilities during recent decades and, in particular, the increasing extent to which high school and college education have become available to larger and larger numbers of our population within the past 30 years.

### EMPLOYED WORKERS BY INDUSTRY

Of the total population of the United States 14 years old and over, which amounted to 101,102,924, 52,789,499, or 52.2 per cent, were classified as in the labor force during the last week of March, 1940. The number in the labor force included 45,166,083, or 85.6 per cent of the total, employed on private or non-emergency government work, 2,529,606 on public emergency work (WPA, CCC, NYA, etc.), and 5,093,810 seeking work. Of the total male population 14 years old and over 79 per cent were in the labor force, while of the females 14 years old and over only 25.4 per cent were in the labor force, the difference being

**TABLE 6. EMPLOYED WORKERS 14 YEARS OLD AND OVER BY SEX AND INDUSTRY GROUP: 1940**

Industry Group	Number			Per Cent		
	Total	Male	Female	Total	Male	Female
Employed workers (except on public emergency work).....	45,166,083	34,027,905	11,138,178	100.0	100.0	100.0
Agriculture, forestry, and fishery.	8,475,432	7,988,343	487,089	18.8	23.5	4.4
Mining.....	913,000	902,061	10,939	2.0	2.7	0.1
Construction.....	2,056,274	2,022,032	34,242	4.6	5.9	0.3
Manufacturing.....	10,572,842	8,250,590	2,322,252	23.4	24.2	20.8
Transportation, communication, and other public utilities.....	3,113,353	2,768,267	345,086	6.9	8.1	3.1
Wholesale and retail trade.....	7,538,768	5,509,228	2,029,540	16.7	16.2	18.2
Finance, insurance, and real estate	1,467,597	1,013,297	454,300	3.2	3.0	4.1
Business and repair services.....	864,254	787,377	76,877	1.9	2.3	0.7
Personal services.....	4,009,317	1,133,555	2,875,762	8.9	3.3	25.8
Amusement, recreation, and related services.....	395,342	316,063	79,279	0.9	0.9	0.7
Professional and related services..	3,317,581	1,472,453	1,845,128	7.3	4.3	16.6
Government.....	1,753,487	1,414,069	339,418	3.9	4.2	3.0
Industry not reported.....	688,836	450,570	238,266	1.5	1.3	2.1

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mainly accounted for by the very large proportion of women engaged in housework in their own homes.

The most extensive census classifications of workers by industry and occupation are presented for employed workers, omitting those on public emergency work. A distribution of these workers among the major industry groups is shown in Table 6.

On the basis of the whole number of workers employed, the manufacturing group, with 10,572,842, was the most important in the series, followed by agriculture, forestry, and fishery (mainly agriculture), with 8,475,432, and wholesale and retail trade with 7,538,768.

The industrial distribution of female workers differs materially from that of male workers. The number of female workers employed in wholesale and retail trade represented 18.2 per cent of the total, as compared with 16.2 per cent of the male workers. (The actual number of female workers in this industry group was, of course, very much smaller, since the whole number of female workers was only about one-third as great as the number of male workers.) In manufacturing, likewise, the percentages represented by male and female workers were not widely different, but in agriculture, mining, construction, transportation, and business and repair services, the percentages of all male workers employed were far greater than those of the female workers. On the other hand, 25.8 per cent of all the female workers were in the group designated "Personal services" as compared with 3.3 per cent of the male, and in the group designated "Professional and related services" were found 16.6 per cent of the female workers (largely school teachers), as compared with 4.3 per cent of the male.

##### PROPORTION OF WORKERS IN AGRICULTURE

During the colonial period and well into the past century, the United States was predominantly an agricultural nation. It has been estimated

that at the date of the first census providing any occupational data—that of 1820—71.8 per cent of the entire working population of the United States were engaged in agricultural pursuits, and that only 28.2 per cent were in non-agricultural pursuits. By 1850, however, the percentage of the workers in agricultural pursuits is estimated to have dropped to 63.7 per cent, and in 1870 only a little over one-half (53 per cent) of all gainful workers were in agriculture. From 1870 to 1910 agricultural pursuits furnished employment, decade by decade, to a smaller and smaller proportion of the workers, though the actual number of workers in agriculture continued to rise. Since 1910, however, the number of workers engaged in agricultural pursuits, as well as their proportion of all workers, has been declining. In 1940 only 17.6 per cent of the nation's labor force were in agricultural pursuits, a percentage in striking contrast to the 68.6 per cent in 1840 or the 71.8 per cent in 1820.

With the rapid introduction of labor-saving machinery on the farm, the number of hands needed to produce the nation's food supply and the textile materials for its clothing became less and less. The gang plow, the tractor, the self-binder, the header, the combine, the multiple-row cultivator—all of these and many other machines have displaced farm labor.

During the 120 years covered by the statistics, workers have persistently gone from the farms to the factories, the shops, and the offices. Decade after decade large numbers of rural dwellers have become urban dwellers. More and more, with the passing years, the farms have come to supply the cities not only with additional food, and with textiles for clothing, but also with additional workers.

The statistics as presented in the accompanying table (Table 7) indicate, in broad outline, the occupational distribution of the nation's labor force through 120 years of its history. Because of changes in the nature of the statistics available from census to census, it is difficult to get a strictly comparable series covering

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so long a period. The figures presented in the table for the earlier years involve a considerable element of estimate but the whole series represents fairly well the trend of employment as directed to agricultural activities, expressed in terms of gainful workers 10 years old and over—the basis of the 1930 and immediately preceding censuses. The 1940 data have been adjusted, to make them conform to this basis, by the addition of an estimate of the number of children 10 to 13 years old engaged in agricultural and all other pursuits and estimates of the effects of the changes in definition between 1930 and 1940 and of the differences between the labor force and the gainful worker concepts.

**TABLE 7. PROPORTION OF WORKERS ENGAGED IN AGRICULTURE: 1820 to 1940**

Census Year	All Occupations	Agricultural Pursuits	
		Number	Per Cent
1940.....	52,148,251	9,162,547	17.6
1930.....	48,829,920	10,471,998	21.4
1920.....	42,433,535	11,448,770	27.0
1910.....	37,370,794	11,591,767	31.0
1900.....	29,073,233	10,911,998	37.5
1890.....	23,318,183	9,938,373	42.6
1880.....	17,392,099	8,584,810	49.4
1870.....	12,924,951	6,849,772	53.0
1860.....	10,532,750	6,207,634	58.9
1850.....	7,697,196	4,901,882	63.7
1840.....	5,420,000	3,719,951	68.6
1830.....	3,931,537	2,772,463	70.5
1820.....	2,881,000	2,068,958	71.8

### WAGE OR SALARY INCOME

The income figures obtained in connection with the 1940 Census were limited to wage or salary income received in 1939; and the most significant tabulations are those relating to persons classified as wage or salary workers (as distinguished from employers or own-account workers) at the time of the census. On the basis of a supplementary question asking whether or not the individual had received during 1939 income from non-wage sources amounting to as much

as \$50, workers are classified into two groups. For the first group, those not receiving such additional income, the wage or salary income figures represent practically the entire income available to the individual for his own support and that of his dependents. For this reason these figures are perhaps more significant than the figures for the total or those for the second group, whose wage income was appreciably supplemented by income from other sources. In Table 8 all wage or salary workers, including those employed in 1940 and those seeking work (but not those on emergency work), are classified in accordance with the wage or salary income reported; and likewise those workers (forming about five-sixths of all wage or salary workers) who did not receive other income amounting to \$50 or more in 1939.

Wage or salary income, as defined for the 1940 Census, includes all money received in compensation for work or services performed as employees, including commissions, tips, piece-rate payments, bonuses, etc., as well as receipts commonly referred to as wages or salaries. The value of income received in kind, such as living quarters, meals, clothing, etc., was not included. Those workers shown in the table as receiving no money wage or salary income in 1939 include persons who were employed or working on their own account in 1939 but were working for wages in 1940, persons who were outside the labor force in 1939, and workers who may have received all payment for their services in 1939 in the form of board, lodging, supplies, or other non-money considerations.

The considerable range of income is indicated by the fact that about one-fourth of the workers reported incomes of \$1,400 or more and little more than one-fourth reported incomes below \$400. Those who received \$5,000 and over constituted only 1 per cent of the total and those with from \$1 to \$99 only 3.4 per cent.

The median income may be defined as that income which divides the total group of workers into two equal parts,



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## TABLE 8. WAGE OR SALARY WORKERS BY INCOME AND SEX: 1940

[These statistics are based upon a tabulation of a five per cent cross-section of the population, multiplied uniformly by 20.]

Wage or Salary Income in 1939	Number of Workers			Per Cent		
	Total	Male	Female	Total	Male	Fe- male
All Wage or Salary Workers						
Total.....	38,322,420	27,458,200	10,864,220	...	...	...
Number reporting income.....	37,435,740	26,846,220	10,589,520	100.0	100.0	100.0
None.....	2,673,440	1,662,340	1,011,100	7.1	6.2	9.5
\$1 to \$99.....	1,277,280	606,340	670,940	3.4	2.3	6.3
\$100 to \$199.....	2,203,520	1,235,580	967,940	5.9	4.6	9.1
\$200 to \$399.....	4,430,840	2,783,960	1,646,880	11.8	10.4	15.6
\$400 to \$599.....	3,889,380	2,460,600	1,428,780	10.4	9.2	13.5
\$600 to \$799.....	4,241,880	2,690,840	1,551,040	11.3	10.0	14.6
\$800 to \$999.....	3,472,840	2,368,500	1,104,340	9.3	8.8	10.4
\$1,000 to \$1,199.....	3,110,120	2,368,320	741,800	8.3	8.8	7.0
\$1,200 to \$1,399.....	2,979,820	2,436,660	543,160	8.0	9.1	5.1
\$1,400 to \$1,599.....	2,338,240	2,011,720	326,520	6.2	7.5	3.1
\$1,600 to \$1,799.....	1,273,860	1,115,720	158,140	3.4	4.2	1.5
\$1,800 to \$1,999.....	1,463,340	1,316,020	147,320	3.9	4.9	1.4
\$2,000 to \$2,499.....	2,039,920	1,874,160	165,760	5.4	7.0	1.6
\$2,500 to \$2,999.....	771,520	717,400	54,120	2.1	2.7	0.5
\$3,000 to \$3,999.....	713,040	664,680	48,360	1.9	2.5	0.5
\$4,000 to \$4,999.....	200,700	190,460	10,240	0.5	0.7	0.1
\$5,000 and over.....	356,000	342,920	13,080	1.0	1.3	0.1
Median income (dollars).....	800	967	540	...	...	...
Workers Without Other Income of \$50 or More						
Total.....	31,726,880	22,564,300	9,162,580	...	...	...
Number reporting income.....	31,409,520	22,342,980	9,066,540	100.0	100.0	100.0
None.....	1,591,720	932,940	658,780	5.1	4.2	7.3
\$1 to \$99.....	1,065,100	492,960	572,140	3.4	2.2	6.3
\$100 to \$199.....	1,837,160	1,013,060	824,100	5.8	4.5	9.1
\$200 to \$399.....	3,662,420	2,258,680	1,403,740	11.7	10.1	15.5
\$400 to \$599.....	3,316,960	2,060,560	1,256,400	10.6	9.2	13.9
\$600 to \$799.....	3,722,680	2,320,320	1,402,360	11.9	10.4	15.5
\$800 to \$999.....	3,077,740	2,071,580	1,006,160	9.8	9.3	11.1
\$1,000 to \$1,199.....	2,779,400	2,099,260	680,140	8.8	9.4	7.5
\$1,200 to \$1,399.....	2,639,980	2,151,020	488,960	8.4	9.6	5.4
\$1,400 to \$1,599.....	2,067,300	1,778,980	288,320	6.6	8.0	3.2
\$1,600 to \$1,799.....	1,117,700	981,560	136,140	3.6	4.4	1.5
\$1,800 to \$1,999.....	1,266,380	1,142,640	123,740	4.0	5.1	1.4
\$2,000 to \$2,499.....	1,738,040	1,604,020	134,020	5.5	7.2	1.5
\$2,500 to \$2,999.....	635,560	594,240	41,320	2.0	2.7	0.5
\$3,000 to \$3,999.....	550,500	515,340	35,160	1.8	2.3	0.4
\$4,000 to \$4,999.....	142,400	135,660	6,740	0.5	0.6	0.1
\$5,000 and over.....	198,480	190,160	8,320	0.6	0.9	0.1
Median income (dollars).....	833	1,002	571	...	...	...

one part having incomes above the median and the other having incomes below. For all workers the median income was \$800, being \$967 for men and \$540 for women. For the group of workers without other income of \$50 or more, the median wage or salary income was \$1,002 for men and

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\$571 for women. These figures apply to all wage or salary workers without regard to occupation or amount of time worked during the year, so they should not be used as indicating differences in pay scales for men and women doing similar work.

### DWELLING UNITS BY TYPE OF STRUCTURE

A dwelling unit, as the term is used in the census of housing (taken in connection with the population census in 1940, and forming essentially a part of it), represents the living quarters occupied by or intended for occupancy by one household. The classification of a given number of dwelling units, therefore, represents a classification of the living accommodations available for the same number of households or families. The classification of dwelling units by type of structure indicates that 23,730,637, or 63.6 per cent of the total number in the United States in 1940 (37,325,470), were 1-family detached houses. An additional 3.2 per cent were "1-family attached," for the most part row houses in structures containing three or more units; 4.4 per cent were in 2-family structures with units side by side; 9.3 per cent were in 2-family structures for the most part with one set of living accommodations above the other; 6 per cent were in 3- or 4-family structures—all of these being strictly residential structures, without business. At the other end of the scale were 1,581,887 dwelling units, or 4.2 per cent of the whole number, in apartment houses of 20 or more families. These figures are summarized in Table 9.

### NUMBER OF ROOMS

A count of the number of rooms in a house or apartment does not constitute a very exact measure of the adequacy of the housing facilities represented, but such a count is readily obtainable and does afford some basis for evaluating the housing units in a given area. The figures for the United States as a whole are presented in Table 10. In the classification by number of rooms, all rooms

**TABLE 9. DWELLING UNITS BY TYPE OF STRUCTURE: 1940**

Type of Structure	Number	Per Cent
Total.....	37,325,470	100.0
Without business:		
1-family detached.....	23,730,637	63.6
1-family attached.....	1,178,318	3.2
2-family side-by-side....	1,656,858	4.4
2-family other.....	3,464,282	9.3
3-family.....	1,384,644	3.7
4-family.....	874,732	2.3
1- to 4-family with business.....	940,726	2.5
5- to 9-family.....	1,492,145	4.0
10- to 19-family.....	854,266	2.3
20-family or more.....	1,581,887	4.2
Other dwelling place....	166,975	0.4

that are used or available for use as living quarters for the household are counted. Bathrooms, closets, pantries, halls, screened porches, and unfinished rooms in the basement or attic are not included.

**TABLE 10. DWELLING UNITS BY NUMBER OF ROOMS: 1940**

Number of Rooms	Number	Per Cent
Total.....	37,325,470	....
Reporting number of rooms.....	36,832,186	100.0
1 room.....	1,307,344	3.5
2 rooms.....	3,215,423	8.7
3 rooms.....	5,331,572	14.5
4 rooms.....	6,891,990	18.7
5 rooms.....	7,302,053	19.8
6 rooms.....	6,321,630	17.2
7 rooms.....	2,868,719	7.8
8 rooms.....	1,886,121	5.1
9 rooms.....	737,986	2.0
10 rooms.....	481,339	1.3
11 or more.....	488,009	1.3
Not reporting number of rooms.....	493,284	....

Out of the 37,325,470 dwelling units in the United States there were 7,302,053, or 19.8 per cent, which contained 5 rooms; 18.7 per cent with 4 rooms; 17.2 per cent with 6 rooms; and 14.5 per cent with 3 rooms. At one end of the scale were 1,307,344 units, or 3.5 per cent of all units, which contained only 1 room, many of these doubtless being occupied by 1-person families. At the other end were 969,-

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348 units, constituting 2.6 per cent of the total, which had 10 rooms or more.

### SIZE OF HOUSEHOLDS

In the classification of households by size, all persons enumerated in the population census as members of the household were counted. In other words, the household includes not only those related members making up what might be termed the private family, but also any lodgers, servants, or other unrelated persons living with the family. On the basis of this classification, as indicated by the figures in Table 11, there were more households comprising two persons than any other number of persons, namely, 8,630,461, or 24.8 per cent of the total (34,854,532). The next most numerous group was that comprising 3-person households, which formed 22.4 per cent of the total, followed in order by 4-person households, 5-person, 1-person, and 6-person households. Households comprising more than six persons numbered only 3,053,715 and formed only 8.8 per cent of the total.

**TABLE 11: HOUSEHOLDS CLASSIFIED BY SIZE: 1940**

Size of Household	Number	Per Cent
Total.....	34,854,532	100.0
1 person.....	2,677,281	7.7
2 persons.....	8,630,461	24.8
3 persons.....	7,796,168	22.4
4 persons.....	6,324,525	18.1
5 persons.....	4,012,525	11.5
6 persons.....	2,359,857	6.8
7 persons.....	1,340,555	3.8
8 persons.....	768,482	2.2
9 persons.....	435,780	1.3
10 persons.....	242,426	0.7
11 or more.....	266,472	0.8

### PERSONS PER ROOM

A significant combination of the data on number of rooms in the dwelling unit and number of persons in the household is represented by a series of computations indicating (in the first instance for each individual unit) the number of persons per room. This figure is often used as an index of the adequacy of the housing ac-

commodations—perhaps it would be better to say of the inadequacy—since emphasis is usually placed on those accommodations where the number of rooms is too small for the satisfactory accommodation of the number of persons in the household. An average of more than 1.51 persons per room is frequently interpreted as an indication of inadequacy of housing accommodations. Since only 9 per cent of all occupied dwelling units were returned in 1940 as having more than 1.51 persons per room, it may be assumed in general that housing accommodations are not very seriously deficient in this respect. In certain areas and in the dwelling units occupied by certain classes of the population, however, the figures run much higher. The data are summarized for urban and rural areas in the North, South, and West in Table 12.

**TABLE 12. DWELLING UNITS WITH MORE THAN 1.51 PERSONS PER ROOM: 1940**

Area	All Occupied Dwelling Units	Units with More Than 1.51 Persons Per Room	
		Number	Per Cent
United States	34,854,532	3,085,922	9.0
Urban.....	20,596,500	1,170,633	5.7
Rural-nonfarm..	7,151,473	786,855	11.1
Rural-farm.....	7,106,559	1,128,434	16.1
The North...	20,442,706	960,715	4.8
Urban.....	13,911,316	572,248	4.2
Rural-nonfarm...	3,667,015	213,150	5.9
Rural-farm.....	2,864,375	175,317	6.2
The South...	10,278,204	1,769,241	17.4
Urban.....	4,134,172	477,807	11.7
Rural-nonfarm...	2,512,578	439,236	17.7
Rural-farm.....	3,631,454	852,198	23.8
The West....	4,133,622	355,966	8.7
Urban.....	2,551,012	120,578	4.8
Rural-nonfarm...	971,880	134,469	14.0
Rural-farm.....	610,730	100,919	16.8

The highest percentage of dwelling units with more than 1.51 persons per room is shown in every area for the

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rural-farm units. This results partly from the fact that the rural-farm families tend to be larger than the urban families, especially to contain larger numbers of children. One might consider, too, as a partial offset, that a small number of rooms in proportion to the number of persons in the family would be a less serious matter on a farm, where there is at least plenty of light and ventilation, than in a city slum. Even with these qualifications, however, the figures indicating the existence of such crowding in rural-farm areas are very significant. The extent of over-crowding indicated by this index is much less serious in the North than in the South or West, though a study of the figures in greater geographic detail will bring out the fact that there are many specific urban areas in every part of the country in which conditions are much less favorable than the figures for the urban area as a whole would indicate.

### SIXTEENTH CENSUS REPORTS

The major part of the material from the Sixteenth Decennial Census is published in eight series of state bulletins, each with a summary for the United States. These series are being assembled into bound volumes bearing numbers corresponding to the numbers of the bulletin series. There are four series of population bulletins: First Series, number of inhabitants for counties, minor civil divisions, incorporated places, and metropolitan districts; Second Series, characteristics of the population (including some data on the labor force) for counties, incorporated places of 1,000 inhabitants or more, minor civil

divisions, and metropolitan districts; Third Series, statistics on the labor force, including data on occupation, industry, employment, and income for the state and for cities of 100,000 inhabitants or more; Fourth Series, population characteristics by age in correlation with marital status, relationship, education, and citizenship for the state and for cities of 50,000 inhabitants or more.

There are also four series of housing bulletins: First Series, data for small areas, including minor civil divisions, as well as states, counties, cities, and metropolitan districts; Second Series, general characteristics of housing for counties, urban places, and metropolitan districts; Third Series, characteristics of housing by monthly rent or value of home for the state and for urban, rural-farm, and rural-nonfarm areas; Fourth Series, mortgages on owner-occupied non-farm homes for urban places and rural-nonfarm areas of counties, for cities of 100,000 inhabitants or more by wards, and for metropolitan districts.

Supplements to the First Series housing bulletins giving data by blocks have been issued for all cities having a population of 50,000 or more in 1930. A series of 58 reports covering 60 cities presents population and housing data by census tracts, which are permanent areas having a population of around 5,000 or 6,000 which have been established for statistical purposes in the larger cities.

Special studies or monographs are in preparation (January, 1943) on institutions, internal migration, families, fertility, parentage, mother tongue, veterans, and household characteristics.



## XIV. POPULATION AND MIGRATION

### RACE CONDITIONS IN THE UNITED STATES

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#### GENERAL

In several respects, racial issues are in much greater evidence in the present war than in that of 1914-1918. Prominent in Nazi philosophy are theories of Nordic superiority and these have afforded part of the rationale for military expansion and for the organized persecution of Jews. On the Pacific front, Japan has striven desperately to convince the peoples of Asia that hers is a fight against white supremacy of the yellow races. Minority peoples in all countries of the United Nations, including our own, have sensed the importance of the present conflict to their future status and welfare. Negro writers have emphasized that, although members of their race appreciate full well the implications of an Axis victory, they are also keeping in mind the inconsistency of our racial discriminations with the principles for which we are now fighting. Furthermore, increased attention is being given to minority groups in this country. This is shown by the space devoted to racial problems in newspapers, periodicals, and books. For example, the September, 1942 issue of *The Annals* of the American Academy of Political and Social Science was devoted entirely to the general topic, *Minority Peoples in a Nation at War*. The November, 1942 issue of *Survey Graphic* dealt altogether with colored minorities.

#### OFFICIAL DATA ON MINORITY GROUPS

**Composition of Population.**—United States Census releases relating to 1940 but issued during 1942, provide certain summary descriptions of minority groups in this country. Of

our total population of 131,669,275 enumerated in the 1940 Census, 106,795,732 or 81.1 per cent were native-born whites; 11,419,138 or 8.7 per cent were foreign-born whites; 12,865,518 or 9.8 per cent were Negroes; and 588,887 or 0.4 per cent were members of other races. Among these last, Indians formed the majority with 333,969. Next in order of importance were the Japanese, Chinese, Filipinos, Hindus, and Koreans. With respect to trends during 1930-1940, the total population of the United States increased 7.2 per cent; native whites increased 10.9 per cent but foreign whites decreased 18.3 per cent. Negroes increased 8.2 per cent but members of "other races," collectively, decreased 1.4 per cent.

As indicated in the adjoining table the foreign whites were largely concentrated in the North, the Negroes in the South, and the "other races" in the West. Actually, the sectional concentration of these groups was more pronounced than the figures by broad regions would indicate. There were in 1940 eight states (Massachusetts, New York, New Jersey, Pennsylvania, Ohio, Illinois, Michigan, and California), each of which contained over 500,000 foreign-born white persons. Collectively, these eight states contained nearly three-fourths of the nation's total foreign-born white group. New York State alone had 2,853,530, or one-fourth of the foreign-born whites in the entire country.

Despite continued movement to the North and West during the 1930-1940 decade, over three-fourths of the Negroes still lived in the South in 1940. Of the "other races" combined, 62 per cent were in the West. By specific groups this western concentra-

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## REGIONAL DISTRIBUTION OF RACIAL GROUPS IN THE UNITED STATES, 1940.<sup>1</sup>

Race or Nativity	Number	Per Cent Living In			
		Total	The North	The South	The West
All Classes.....	131,669,275	100.0	57.8	31.6	10.5
White, Total.....	118,214,870	100.0	61.9	26.8	11.3
Native.....	106,795,732	100.0	59.8	29.1	11.2
Foreign Born.....	11,419,138	100.0	82.1	5.5	12.5
Negro.....	12,865,518	100.0	21.7	77.0	1.3
Other Races, Total.....	588,887	100.0	20.9	17.4	61.6
Indian.....	333,969	100.0	24.9	28.2	46.9
Chinese.....	77,504	100.0	33.2	6.4	60.4
Japanese.....	126,947	100.0	3.9	.8	95.3
Filipino.....	45,563	100.0	17.8	5.2	77.0
Hindu.....	2,405	100.0	24.8	7.0	68.1
Korean.....	1,711	100.0	20.5	2.3	77.2
All Other.....	788	100.0	33.0	3.8	63.2

<sup>1</sup> Adapted from U. S. Bureau of the Census: Population Series, P-10, No. 1, Feb. 2, 1942.

tion ranged from 47 per cent for the Indians to 95 per cent for the Japanese. It is noteworthy that only 4 per cent of the Japanese were found in the North in 1940, as compared with 33 per cent of the Chinese. The high degree of concentration of the Japanese, of course, was changed by the relocation program of 1942, a subject discussed in later pages.

There are also significant differences by nativity and color in the percentages of persons living in cities. Of the native-white population in the United States in 1940, about 55 per cent were urban, 22 per cent rural nonfarm, and 23 per cent rural farm. In contrast, 80 per cent of the foreign-born whites lived in cities, only 12 per cent in rural-nonfarm areas, and 8 per cent in rural-farm areas. Furthermore, the foreign-born whites were abnormally concentrated in large cities. Over one-half (53 per cent) lived in cities of over 100,000, and more than one-third (39 per cent) in cities of 500,000 and over. The comparable percentages for native whites were 27 and 15.

**Age by Nativity and Color.**—As a group, the foreign-born white population is very much older than the native whites, whereas the Negroes and "other races" are somewhat younger than the native whites. In 1940, the median age (the age at which 50 per cent of the people were

younger and 50 per cent older) of our total population was 29 years. It was 26.9 for the native whites, 51 for the foreign whites, 25.3 for the Negroes, and 24.1 for the "other races." (U. S. Bureau of the Census: Population Series P-10, Nos. 5 and 6.) The older age composition of the foreign-born whites, of course, results from the fact that this group is replenished only through immigration from abroad, and this source of renewal has been drastically diminished since our restrictions on immigration of the 'twenties. Since foreign-born whites are rapidly passing into older ages, they are becoming more and more subjected to high mortality rates, and unless our immigration laws are substantially liberalized, they will constitute only negligible proportions of our population within 20 or 30 years. The relatively high age-specific mortality rates among Negroes and "other races" probably account for the somewhat younger average age of these groups, as compared with that of the native whites.

**Educational Attainment by Nativity and Color.**—At the time of the 1940 Census about 4 per cent of our total population 25 years of age and over reported that they had never completed a school year. By nativity and color the percentages were: native white, 1 per cent; foreign-born white, 12 per cent; Negro,

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10; and "other races," 19 per cent. The percentages of persons never completing as much as one year of high school were 53 for the native whites, 79 for the foreign whites, 83 for the Negroes, and 73 for the "other races." (U. S. Bureau of the Census: Population Series, P-10, No. 8, April 23, 1942.) It should be emphasized that older age is an important factor in the relatively poor showing of the foreign whites. Special studies have indicated that educational attainment varies inversely with age, owing to the progressive development of public schools. The native-foreign difference in educational attainment is reduced when age-for-age comparisons are made.

**Country of Birth of the Foreign-Born White Population.**—According to the 1940 Census about 25 per cent of our foreign-born white population had come from northwestern Europe, 30 per cent from southeastern Europe, 31 per cent from central Europe, and 15 per cent from other continents. By single countries, natives of Italy were most numerous with 1,623,580, or 14 per cent of all foreign-born whites; those from Germany ranked next with 1,237,772, or 11 per cent; those from Canada were third with 1,044,119, or 9 per cent (of the Canadian natives, 273,366 were of French descent and 770,753 were mainly of British descent). Foreign-born whites from Russia numbered 1,040,884. No other country was represented by as many as 1,000,000 of our foreign-born whites, but there were 993,479 from Poland, 936,656 from Great Britain (England, Scotland, and Wales), and 572,031 from the Irish Free State.

The foreign white stock, including native whites of foreign or mixed parentage as well as the foreign-born, amounted to 34,576,718 in 1940. Among these the Germans ranked first in absolute numbers and proportion of the whole, having 5,236,612 or 15 per cent of the total group. Italians came second with 4,594,780 or 13 per cent. These two far surpassed all other countries in their contribution to our foreign white

stock. (In all above cases the political boundaries of Jan. 1, 1937 were considered. For further details, see U. S. Bureau of the Census: Population Series P-10, No. 4, April 7, 1942.)

#### **Citizenship of Minority Groups.**

—Since our entry into the war in 1941, the question of citizenship among our foreign-white and other minority groups has assumed increased importance. Of the total 11,419,138 foreign-born whites counted in the 1940 Census, 7,250,252 or 64 per cent reported full-fledged citizenship through naturalization. More detailed data regarding aliens are afforded by statistics from the Alien Registration Division but the latest figures available were summarized in THE AMERICAN YEAR BOOK for 1941. For present purposes it may be repeated that the total number of registrants under the Alien Registration Act of 1940 was 4,921,452, with 314,715 from Germany, 695,363 from Italy, and 91,858 from Japan. This registration included Continental United States and its possessions.

#### **IMMIGRATION AND NATURALIZATION**

**Admissions During 1942.**—During the past 20 years the annual numbers of immigrant aliens admitted to this country have been successively affected by stringent immigration quota laws, the imposition of severer checks during the depression, the fleeing of refugees from Nazi-dominated countries, and finally the difficulty of travel conditions after the outbreak of the war. In 1921, there were 805,228 immigrant aliens admitted to this country. The number declined to 241,700 in 1930, to 97,139 in 1931, to 23,068 in 1933, the lowest number for over 100 years. With the rise of Nazism and the consequent movement of refugees, the number of aliens admitted to this country climbed gradually to a peak of 82,998 in 1939. After 1939, the admissions decreased rapidly each year, and the number (28,781) for the fiscal year ended 1942 was the lowest since that for 1933. The number of departures

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of aliens was also unusually small during the year; only 7,363 departed, and over one-half of these (3,709) were cases of deportation. (See preliminary report of the Immigration and Naturalization Service for the fiscal year ended 1942.)

**Geographic Origin.**—Of the 28,781 aliens admitted in 1942, 39 per cent came from Europe, 36 per cent from Canada, 8 per cent from Mexico, 6 per cent from the West Indies, and the remainder from other places. In the preceding year (1941) the proportions coming from Europe and Canada were 51 and 22 per cent, respectively.

The two principal European countries of last permanent residence of immigrant aliens in 1942 were France and Germany, so reported by 4,430 and 2,150 immigrants, respectively. These two groups were mainly refugees as indicated by the fact that 81 per cent of the former and 96 per cent of the latter were Hebrews. In fact, nearly three-fourths (73 per cent) of the immigrant aliens admitted from total Europe were Hebrews as compared with only 9 per cent from Canada and 2 per cent from Mexico. With the reduction in the proportion of immigrants coming from Europe, however, the percentage of Hebrews among our total immigrants has declined since the outbreak of the war. Hebrews comprised only one-tenth of the admissions in 1933, over one-half in 1939 and 1940, but only 37 per cent in 1942.

As in the past, the immigrants tended to concentrate in a few localities. Of the total 28,781 aliens admitted in 1942, 43 per cent gave New York State as their intended residence. Approximately 71 per cent of the Hebrews made a similar declaration.

**Occupations.**—The occupational composition of the immigrants in recent years has been quite different from that of 20 years ago when individuals of laboring and peasant status predominated. According to the preliminary report of the Immigration and Naturalization Service, 16,808 or 58 per cent of the total 28,781 immi-

grants in 1942 stated that they had no occupation. Presumably, these were chiefly women, children, and elderly men. Among the 11,973 who listed an occupation, 29 per cent belonged to the professions, 23 per cent were in commercial fields, and 27 per cent were skilled workers. Only 2 per cent were farmers, 7 per cent servants, and 5 per cent laborers. The remainder reported miscellaneous occupations.

**Naturalization.**—Whereas the war has served to reduce the volume of immigration to this country, it has provided a marked stimulus to naturalization of resident aliens. During 1939, only 188,813 certificates of naturalization were issued. The number was 235,260 in 1940; 277,294 in 1941; and 270,364 in 1942.

### ALIENS OF ENEMY NATIONALITIES<sup>1</sup>

Since the declaration of war in December, 1941, aliens who are nationals of enemy countries have been subjected to wartime regulations and restrictions. During 1942 various orders and proclamations specified activities in which they may not engage, objects they may not possess, and places from which they are barred. Regulations were also issued concerning their entry or departure from the country, and their naturalization and draft status. In January, 1942 a Presidential proclamation required every alien enemy over 14 years of age to secure a certificate of identification and to carry it at all times.

The number of aliens from enemy countries was increased by President Roosevelt's proclamation of July 17, declaring that a state of war existed between the United States and Hungary, Rumania, and Bulgaria.<sup>2</sup> This increase, however, was not large, for

<sup>1</sup>These individuals have been variously called "enemy aliens" and "alien enemies." The Department of Justice now seems to prefer the term "aliens of enemy nationalities."

<sup>2</sup>Slovakia and Croatia have also declared war on this country, but since these governments are not recognized by the United States, their nationals have not been mentioned among the groups for whom special regulations are prescribed.



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at the time of the Alien Registration in 1940 there were only 116,696 aliens from Hungary, 32,164 from Rumania, and 4,491 from Bulgaria, a total of 153,351. Foreign-born Hungarians and Rumanians resided in greatest numbers in New York and Ohio, while the states with largest numbers of Bulgarians were Ohio, Michigan, and New York.

It should be noted that aliens from these three countries were not classified as enemy aliens by the President's proclamation of July 17, as were the Japanese, Germans, and Italians in the proclamations of Dec. 7-8, 1941; consequently, they were not required to secure certificates of identification and were not subjected to other restrictions. If, however, members of these nationalities are suspected of disloyalty, they may be arrested and interned, and they are also classified as alien enemies in regard to entry or departure from the country and under the naturalization law. The latter specifically defines an alien enemy as any alien "who is a native, citizen, subject, or denizen of any country, state, or sovereignty with which the United States is at war."

At the time restrictions were first imposed upon aliens of enemy nationalities, aliens from Austria, Austria-Hungary, and Korea were classified with Germans and Japanese. During 1942, however, the status of these individuals was clarified, and they are no longer regarded as enemy aliens if at the time of the Alien Registration in 1940 they registered as Austrians, Austro-Hungarians, or Koreans and have not at any time voluntarily become German or Japanese citizens. Moreover, former German, Italian, and Japanese citizens or subjects have been relieved from compliance with the regulations if, before Dec. 7 or Dec. 8, 1941, they became and still are citizens of countries other than Germany and Japan. Aliens of enemy nationalities are also exempted from the restrictions during terms of military service in the Armed Forces of the United States.

The exemption of Italians from the

"alien enemy" status was an important development in 1942. At a Columbus Day celebration in New York City on Oct. 12, U. S. Attorney General Francis Biddle announced that Italian aliens would no longer be required to comply with the restrictions imposed upon them by the Proclamation of Dec. 8. The change in their status has been brought about by the fact that during the first ten months of the war, Italian aliens in this country demonstrated their loyalty to the United States. According to a statement on Oct. 14, 1942, by Edward J. Ennis, director of the Alien Enemy Control Unit of the Department of Justice, out of approximately 600,000 Italian aliens in this country, only 653, or about one-tenth of one per cent, have been brought before Alien Enemy Hearing Boards on charges of disloyalty or suspected subversive activities. Of these, only 232 were ordered interned, and 265 more were placed on parole, the remainder being freed from the charges against them. However, Italian aliens are still subject to arrest and internment if they are considered dangerous to the welfare of the nation, and are still classified as alien enemies under the naturalization law.

#### EVACUATION OF JAPANESE

Evacuation of some 110,000 men, women, and children of Japanese ancestry from their homes in the West Coast area to inland centers was one of the outstanding events in the field of race relations during 1942. Forced migration of so large a single group is unprecedented in the United States. Even more significant is the fact that nearly two-thirds of the evacuees are American citizens who were born in this country. For the first time in our history a particular group of citizens has been removed from familiar surroundings and concentrated in specific centers by Federal authority. In regard to members of other enemy nationalities distinction is made between citizens and aliens. Even among the aliens, those suspected of subversive tendencies or activities are handled individually by

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the Department of Justice and by appropriate agencies.

Military necessity has been the reason given for the evacuation, for it was felt that "although a large proportion of the Japanese group might be found loyal to the United States . . . military considerations can not permit the risk of putting an unasimilated or partly assimilated people to an unpredictable test during an invasion by an army of their own race." Moreover, anti-Japanese feeling in the western states has been so pronounced that authorities feared proper civil protection of the Japanese might be exceedingly difficult unless they were under Federal and Army protection.

The problem of dealing with the Japanese during the war emergency has been rendered more acute because of their conspicuous concentration in certain regions and because of cultural and racial differences that have tended to set them apart in separate communities. Of the 126,947 Japanese in the United States at the time of the 1940 Census, nearly 89 per cent, or 112,353, were in the three Pacific Coast states; California alone had almost three-fourths of all Japanese in the Country and Los Angeles County had 29 per cent of the total number. Nearly two-thirds (79,642 or 63 per cent) of the entire group were born in this country and hence were American citizens. (These native-born Japanese are usually termed Nisei.) The remaining 47,305, or 37 per cent, were born in Japan and were consequently unable to become naturalized citizens. These aliens, commonly known as Issei, likewise resided for the most part in the three states of California, Washington, and Oregon.

Because of this concentration and because of racial and cultural differences, anti-Japanese feeling has flared up many times in the western states, particularly in California. After Pearl Harbor, public sentiment began to demand immediate evacuation of all Japanese from coastal regions. On Feb. 19, 1942 President Roosevelt, acting within his wartime

powers, delegated to the Secretary of War authority to prescribe military areas from which any or all persons might be excluded. Such authority was redelegated to the commanding general of the Western Defense Command, who immediately designated approximately the western half of Washington, Oregon, and California and the southern half of Arizona as Military Area No. I, with adjacent sections of these states as Military Area No. II. On March 2, an order was issued directing all persons of Japanese ancestry to leave Military Area No. I, and later, Area No. II.

For a few weeks Japanese, both aliens and native born, were encouraged to migrate voluntarily. Many did so, but the process was hindered by difficulties involved in disposing of houses, farms, or businesses, and particularly by the hostility of communities to which the Japanese desired to move. Consequently, on March 29, voluntary migration was halted and a regulated evacuation was begun. The Federal agencies particularly concerned with the evacuation have been the War-time Civil Control Administration and the War Relocation Authority. The former directed the evacuation of Japanese to temporary assembly centers set up in the areas to be cleared. There were 14 of these centers, in which the evacuees were concentrated until they could be removed to the permanent relocation centers. The War Relocation Authority has responsibility for the welfare of the evacuees after their removal from the assembly centers. Moreover, such agencies as the Department of Justice, the Federal Reserve Bank of San Francisco, the Federal Security Agency, and the Department of Agriculture have cooperated by attempting to safeguard the interests of the evacuees and by assisting in the handling of property and business matters and the solution of similar problems.

By the middle of June practically all Japanese had been cleared from Military Area No. I, and by the end of August, evacuation from Military

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Area No. II was well under way. According to the latest reports available, most of the evacuees are now in one of the ten relocation centers which are situated in eastern California, Arizona, Utah, Idaho, Wyoming, Colorado, and Arkansas.

In the relocation centers the evacuees are provided with food, housing, medical care, and protection. Except for the major aspects of administration, each community is encouraged to handle its own affairs. The evacuees in each center may elect a legislative body, or council, from among the native-born Nisei; they may set up a judicial committee to take care of minor offenses; they may create their own police and fire fighting force; and they are expected to manage their own recreational activities. The problem of providing employment has received particular attention from the authorities. The sites of the relocation centers were selected with the view of providing agricultural opportunities, public work projects, or simple manufacturing. Evacuees employed within the centers are paid \$12 a month for unskilled work, \$16 a month for skilled, and \$19 for professional work. During the summer sugar beet growers asked for evacuees to help in the production and harvesting of the beet crop. Several thousand of the Japanese left the centers to work in the fields and hundreds of others picked long staple cotton in Arizona.

The War Relocation Authority recently clarified the conditions under which individual Japanese who are American citizens may leave relocation centers to accept outside work, provided such work is not located within the Western Defense Command. Furthermore, such permission is granted only to Nisei who have never lived or attended school in Japan, and only if the director of the WRA is convinced of the loyalty of the Japanese applying and is satisfied both with the nature of the employment offered and with the attitude of the community to which the evacuee plans to go.

During 1942, the mass resettlement

of Japanese evoked much comment, printed discussion, and official investigation. The Tolan Committee investigating defense migration held hearings on the evacuation, and these revealed a marked disagreement of Caucasian witnesses as to the necessity and advisability of the evacuation. Those who advocated the move contended that evacuation was a "military necessity because of the inability of the Federal and State officials to distinguish loyalties among Japanese-American citizens and aliens," and because the evacuation was necessary for the protection of the Japanese themselves. Witnesses who opposed the evacuation agreed that military officials must do whatever is necessary to prevent sabotage, but maintained that the Federal Bureau of Investigation could handle subversive activities and conduct. They felt that since the majority of Japanese are loyal, those who are dangerous to the welfare of the nation could be handled individually, as is done in the case of other enemy aliens.

Although this resettlement of a large group of Japanese was caused by the wartime emergency, the Federal agencies involved have attempted to carry out the evacuation with the least possible economic and social loss to the evacuees and to the areas concerned. In the words of Dillon Myer, director of the War Relocation Authority: "If the evacuees are permitted to live in a manner as nearly normal as possible, with responsibility for the management of the communities in which they live, with educational opportunities, with a chance to develop initiative, and with reason to look forward to a better day, then there is a possibility that they may be retained as contributing members of a democratic society." (Dillon Myer: "Democracy in Relocation," *Common Ground*. Winter 1943, vol. 3, No. 2, p. 44.)

In spite of this attempt of the WRA to consider the welfare of the evacuees as well as the military necessities of the country, there have been recent reports of dissatisfaction



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in some of the centers, waste of materials, sabotage of work projects, and even a riot on the first anniversary of Pearl Harbor. There are also rumors of impending Congressional investigations of the charge that the War Relocation Authority is "pampering" the evacuees. The evacuation is fraught with many legal, social, and economic problems, for the solution of which there is no precedent in the history of our democracy.

### EAST COAST MILITARY AREAS

While attention during the year was centered upon the evacuation of the Japanese from the West Coast, it should not be overlooked that Lieut. General Drum set up military areas along the East Coast. However, he declared that no mass evacuation is contemplated, either of Japanese or other enemy aliens. The first general orders calling for evacuation of certain military areas dealt only with enemy aliens and not with any special group. If the policy used in regard to the Japanese were carried out in the military zones of the Eastern Coast, many thousands of Germans would be affected. (Attorney General Biddle's proclamation of Oct. 12 freed the Italians from the classification of alien enemies.) The German foreign-white stock, including both foreign born and native born of foreign or mixed parentage, number more than 5,000,000. A large proportion of these are in the northeastern states, so that their evacuation from eastern military zones would raise innumerable difficulties. So far, however, no mass evacuation has been carried out anywhere except in the case of Japanese living in Alaska and in the Western Defense Command.

### MINORITY GROUPS IN INDUSTRY

The restrictions against the employment of aliens originated in 1926, when a Congressional bill appropriated funds for the enlargement of the Air Force contained the provision that "no aliens employed by a contractor for furnishing or constructing aircraft, or aircraft parts, or aeronautical accessories for the

United States shall be permitted to have access to the plans and specifications or the work under construction or to participate in the contract trials without the written consent beforehand of the Secretary of the department concerned." This provision has been reinstated in all appropriations for the Air Force since 1926. It effected no discernible hardship, however, until the defense program was initiated and the War and Navy Departments began applying it to all war production of "classified, restricted, or confidential nature."

Despite the repeated protests of the President, the Attorney General, and others, many employers tend to interpret the restrictions as applicable to all plants having any type of government contract. Partly as a result of this interpretation, there have been shortages of skilled workers, bottlenecks in production of vital materials, and severe hardships for aliens whose failure to become naturalized has been due largely to carelessness. In the meantime, the naturalization courts have been overworked, and the state and Federal vital statistics divisions have been flooded by requests for birth certificates.

In a further attempt to clarify the position of the Government on employment of aliens, the President, on July 12, 1942, issued a statement that "persons should not hereafter be refused employment, or persons, at present employed, discharged, solely on the basis of the fact that they are aliens or that they were formerly nationals of any particular foreign country. A general condemnation of any group or class of persons is unfair and dangerous to the war effort." He asserted that there are no Federal laws against the employment of aliens except for work under "secret, confidential or restricted Government contract" and that even in this exception aliens may be employed if the employer secures proper permission from the Army or Navy Department. He emphasized that there are no Federal laws whatsoever restricting the employment of naturalized citizens. Furthermore, he issued a joint di-



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rective to the Army and Navy prescribing that "applicants for employment on Government war contracts may determine their citizenship status by making a declaration that they are citizens of the United States, and stating the place and date of their birth." This has tended to expedite employment and to relieve the demand for birth certificates for this purpose. (*Interpreter Releases, XIX*, No. 38, Aug. 6, 1942.)

##### **DISCRIMINATION AGAINST NEGROES IN THE WAR EFFORT**

Soon after the defense program got under way frequent complaints were heard that Negroes were being barred from employment in spite of the desperate need for workers. That there has since been a marked improvement is almost universally admitted by Negro leaders. That the color line is still drawn and that Negroes are not being allowed to participate fully in war production careful students have agreed.

In a report of progress in the war employment of Negro labor, prepared by the National Urban League in July, 1942, emphasis was placed on the increased employment of Negroes in aircraft manufacture, ordnance plants, shipbuilding yards, and former auto plants now engaged in war production. Progress was also noted in the relaxing of restrictions formerly practiced by some trade unions against Negroes. The advances were believed to be due mainly to three effective forces. The first was the President's executive order, issued June 25, 1941, in which he forbade racial discrimination in defense employment and announced the establishment of a Fair Employment Practices Committee within the Office of Production Management. The FEPC has held hearings in various cities, investigated complaints in many others, and it has exercised its power of issuing directives to concerns ordering them to cease and desist from discrimination.

The second is the Negro Manpower Service of the War Manpower Commission, which follows up the war

contracts as they are awarded, and through conferences with employers, union agents, and public officials, attempts to increase observance of the provisions in war contracts that there be no discrimination against eligible workers because of race, creed, or national origin.

The third general force tending to enhance the employment and training opportunities cited by the National Urban League is that afforded by private agencies and groups devoted to the improvement of the status of the Negroes. The pressure of these groups helped to stimulate the establishment of the two Federal agencies described above.

Despite the advances in the employment of Negroes in war industries, the problem of discrimination is still serious according to unbiased students and observers. An editorial in *The New York Times* of Dec. 28, 1942 stated that the "issue of the Negro's place in American industry is a serious one, for the simple reason that though he is badly needed, he hasn't yet won a place in proportion to his numbers. It is estimated that throughout the United States he now forms 20 per cent of the unemployed, though he is less than 10 per cent of the population."

##### **THE NEGRO IN THE ARMED FORCES**

Although grievances are still voiced, there is definite evidence of the improved status of the Negro in military service. First to be mentioned is the Office of War Information's recent announcement that Negroes constitute 10.1 per cent of all Army personnel, a percentage slightly higher than that of Negroes in the total population (9.8 per cent). In the second place, although the Navy lags far behind the Army in the use of Negroes, it did break a precedent in 1942 by the announcement that Negro volunteers would be accepted as "reservists" in the Navy. Although the volunteers are being placed in separate ships under the command of white officers, this development marks a significant change from the Navy's

## RACE CONDITIONS IN THE UNITED STATES

traditional policy of accepting Negroes only for messmen and other menial duties.

The induction of large numbers of Negro youth into the Armed Forces at least means that, like other underprivileged groups, many of these youths are for the first time in their lives being well fed, well clothed, and cared for by competent dentists and physicians. Besides these physical advantages, there is doubtless also the psychological lift afforded by wearing the uniform and being an integral part of the national war effort. In general, the Negro's military experience should serve to enhance his status as an American citizen after the war.

### LEGISLATION AFFECTING MINORITY GROUPS

During the year the Senate and House of Representatives had under consideration various bills relating to the welfare and conduct of minority groups. Probably the most important of these was the anti-poll tax bill, known as H.R. 1024, or the Geyer bill, in the House, and as S. 1280 in the Senate. These bills provided for abolishing the poll tax as a prerequisite to voting for Federal elective officers, a tax that has served effectually to disfranchise the Negroes and also many of the poorer white citizens. Poll taxes have existed in southern states for a long time, but at present have been abolished except in eight states—Virginia, South Carolina, Georgia, Tennessee, Alabama, Mississippi, Arkansas, and Texas. Stormy debates were held in connection with the bills, and the Geyer bill was passed by the House on Oct. 13 by a large majority. In the Senate, however, Senator Bilbo of Mississippi began staging a filibuster in order to prevent action on the bill. After the failure of an attempt to invoke the closure rule, a deal was made whereby the filibuster was called off, and the measure was shelved for the remainder of the session.

The Second War Powers bill, S. 2208, was passed by the Senate on Jan. 28, 1942, providing, in Title X,

for simplified naturalization requirements for all aliens serving with the Armed Forces of the United States. The House objected to the inclusion of "all aliens" and finally passed the bill, excluding from the naturalization privileges of the bill aliens who have entered illegally, or having entered legally, are unable to furnish proof of that fact. The bill in this form became Law 507 on March 27, 1942. Since that time the limitation of the law to those able to prove legal entry has created many difficulties and delays in the naturalization of alien members of the Army and Navy. On Sept. 15, Congressman Dickstein (N. Y.) urged the House to amend Title X of the bill so that all aliens upon induction into the United States Armed Forces may quickly secure their citizenship papers.

Mention should perhaps be made of two other bills that were proposed in Congress during the year. Both were introduced by Senator Holman of Oregon: one, S. 2789, proposes to stop all immigration, even that of quota immigrants; and the other, S.J.Res. 163, proposes to amend the Constitution to eliminate dual citizenship—that is, no person who is decreed a citizen of any foreign nation shall become a citizen of the United States, whether born in the United States or not.

Other legislative proposals reflected the war psychology of the American people, particularly the anti-Japanese sentiment that accompanied the evacuation of all Japanese from the West Coast area. For example, one resolution introduced in Congress proposed to amend the Constitution so that citizenship by birth in the United States should be denied to any one, either of whose parents is ineligible to citizenship because of race. Another bill was proposed to permit detention of persons of Japanese ancestry wherever they may be and for the duration. The Senate Immigration Committee, reporting favorably upon this bill, urged that citizens of Japanese ancestry be disfranchised. Thus, the halls of Congress, as well as the press and in-

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numerable public utterances, reveal the difficulty of preserving the rights of minority groups and national unity in the midst of war. As the Tolan Committee pointed out in its Fourth Interim Report: "The Nation must decide and Congress must gravely consider, as a matter of national policy, the extent to which citizen-

ship, in and of itself, is a guaranty of equal rights and privileges during time of war. Unless a clarification is forthcoming, the evacuation of the Japanese population will serve as an incident sufficiently disturbing to lower seriously the morale of vast groups of foreign-born among our people."

### AMERICAN INDIAN AFFAIRS.

BY ALLAN G. HARPER

SENIOR FIELD REPRESENTATIVE, UNITED STATES INDIAN SERVICE

#### INDIANS AND THE WAR

The out-migration of reservation Indians to participate directly and indirectly in the war effort was the most noticeable development in Indian affairs in 1942. Even the closely integrated life of the Rio Grande Pueblos interposed no barrier to this national trend. A survey towards the end of the year at that Agency showed that of 2,344 able-bodied men, only 36 per cent were then in residence while all the others, 64 per cent, were absent, enlisted in the armed forces, or engaged in agricultural and industrial pursuits. Similar reports were received from practically all of the 200 reservations throughout the country. Superintendents reported that Indians were receiving the prevailing high wages in war work, and that this was particularly true of those who had received training in the Indian Bureau's vocational schools or had been enrolled in the now abolished Civilian Conservation Corps. It was also observed that Indians who had gone out to help in the fall harvest were returning with substantial supplies of food and clothing, as well as cash in their pockets. No localized relief problem seemed likely to develop until after the first of the new year.

From statistics admittedly incomplete it was estimated that of the total ward population (400,000, including Alaska), more than 11,000 Indians were enlisted both voluntarily and under the Selective Service

Act. Repeating their magnificent record in the First World War, the Indians were by common report giving a good account of themselves in every branch of the Services.

Apart from offering their lives and labor, the Indians wholeheartedly cooperated in mobilizing their resources in behalf of winning the war. By December 1942, more than 2,500,000 acres of trust land had been turned over to the War and Navy Departments for various purposes in seven western states and in Alaska. More than 800 oil and gas leases and more than 80 permits to develop coal, copper, lead, zinc, tungsten, vanadium and helium on Indian lands were issued. The letting of timber contracts was accelerated; it was estimated that 5 per cent of the nation's lumber requirements was being met from Indian-owned forests. An average of one out of every three Indian families planted "Victory Gardens," and the total cropped acreage of all Indian farms rose 10 per cent. Cattle production was up 10-15 per cent. These substantial contributions to war-time food demands, however, were not a result induced by unusual effort merely, but they reflected rather the fruit of ten years of systematic agricultural extension work among the Indians and of six years of planned loans and credit authorized in the Indian Reorganization Act of 1934.

The Indians' response to the war underscored the complete loyalty of

## AMERICAN INDIAN AFFAIRS

an ethnic minority whose historical treatment had engendered profound bitterness. The outgoing of the Indian populations seemed also to be the strongest possible refutation of the charge that reservations stifled the Indians' full participation in national life. At the same time, only speculation could deal with the possible effects in the future of this war-time mobility.

### ATTU AND THE ALASKA FRONT

The Island of Attu is the most westerly outthrust of the Aleutians toward Asia. When it was occupied by Japanese forces on June 7, 1942, a colony of Aleut natives and two Indian Service employees fell into the hands of the invaders. Whether they were killed or captured was not learned. Duplicating an arrangement established at more than 60 isolated Indian Bureau centers throughout Alaska, Mr. and Mrs. Charles Foster Jones had accepted their joint post of teaching and administration at Attu, at the request of General Superintendent Claude M. Hirst, with a full awareness of the danger which threatened them. Like other Service employees in the Territory, they maintained their own radio transmitters purchased from personal funds. The Japanese attack on Alaska drew attention to the fact that for many years the isolated employees of the Alaska Indian Service had provided, with their own radio sets, the only contact of the far-flung reaches of the Territory with southeastern Alaska and the United States. Recognizing the tremendous value of this service, the War Department in 1942 allocated funds for the purchase of the employees' radio sets and directly incorporated them and the employees' services into the network of military intelligence. The arrangement pointed up the general close collaboration of the Indian Bureau with the naval and military establishments in the Territory. At this time, it is permitted only to report that this collaboration reached in many directions—the supplying of lands, facilities and information, and in evacuating

the natives from critical military areas.

### INDIAN SERVICE WAR READJUSTMENTS

Despite its manifold relationships to the war, the Indian Bureau continued to be classified as a "non-war agency" and to be treated as such in budget considerations, priorities, and in other matters. In August, its headquarters' staff in Washington was transferred to Chicago along with two other bureaus of the Department of the Interior to make room for war agencies. The translation of the Bureau's budget to a war basis resulted in the total of regular appropriations being reduced from \$33,343,268 for the fiscal year ended June 30, 1942, to \$28,721,077 for 1943. This reduction was principally reflected in the elimination of funds for roads, buildings, and irrigation construction. Appropriation by Congress of tribal funds, however, was reduced from \$1,974,610 in 1942 to \$1,672,660 in 1943.

The most serious budgetary and administrative difficulty arose through the abolition of the Civilian Conservation Corps which had been organized on Indian reservations as a separate entity since 1933 under Indian Bureau administration. The "CCC-ID" ended its nine years' existence with a tremendously impressive record of accomplishment, not only in the amount of capital improvement to Indian-owned physical resources but also in the beneficial development by which the Indians individually profited. Its abolition deprived the Bureau of much needed funds necessary for the proper salvage and conservation of the Indian land estate. The compression of these activities within the regular appropriations of the Bureau proved difficult and in many cases impossible. Daniel E. Murphy, who had been enlisted from his superintendency of the Osage Reservation, was the director of the activity from its creation in 1933, assisted by J. P. Kinney, former head of the Bureau's Forestry Division.



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In preparing its first war budget, the Bureau recommended the abolition of five boarding schools, in line with the general policy of reducing these institutions and throwing the emphasis upon day schools. Congress, however, authorized the abandonment of only one, the Leupp Boarding School on the Navajo Reservation which was subsequently turned over to the War Department. Following a decision previously made, another boarding school, that at Tomah, Wis., was discontinued, and its plant made available to the Army. The appropriation for the subsistence and care of Indian children in sectarian boarding schools was cut in half. The Education Division's budget declined from \$10,761,160 in 1942 to \$10,676,960 in 1943.

Indian Bureau administration felt the impact of the war most acutely in the drain of its personnel into war service. The Bureau's policy was to cooperate to the limit in making transfers of regular employees to the military, naval, and civilian war establishments. Sixty-five physicians, 10 dentists, and 100 nurses and nurse aides were thus released, placing a heavy handicap upon the long range programs of curbing the infant mortality, tuberculosis, and trachoma rates. The Health Division's budget rose from \$5,879,615 in 1942 to \$5,934,190 in 1943. In the field of health, most encouraging evidence was shown in the progress of the trachoma campaign. Beginning in 1939, the Service began its intensive use of sulfanilimide (see THE AMERICAN YEAR BOOK, 1942, p. 571). In that year the disease had an incidence of 18.9 per cent; in 1942, examination of 55,000 Indians showed an incidence of 7.3 per cent, a remarkable proof of the effectiveness of the new treatment which had been pioneered by Indian Service physicians.

##### JAPANESE RELOCATION

The year brought to the Indians and their Service still another wartime responsibility through the Government's decision to relocate the resident Japanese population away

from the west coast military zone and to segregate them in a dozen inland centers. To manage these centers the President created the War Relocation Authority to which Commissioner John Collier released a large number of his Bureau's abler administrators. To the Authority was leased a tract of about 7,000 acres of subjugated land on the Gila River Reservation for one of its centers, with an option on about 9,000 acres if needed.

More important, however, was the contract, entered into with the WRA, with the concurrence of the Indians, under which the Indian Bureau assumed direct responsibility for the custodianship of 20,000 Japanese, to be relocated on the Colorado River Reservation in Arizona. For many years the Indian Bureau had looked forward to the development of a tract of 100,000 acres on this reservation through the diversion of water from the Colorado River. The addition of such a large and potentially productive area of land promised to provide in part a solution to the problem of over-population on a number of reservations in the southwest. The completion of a dam in 1941 on the river at a cost of \$4,000,000 brought this plan measurably closer; work was proceeding on the construction of the main canal when Pearl Harbor disarranged these plans along with all others. Under the contract with WRA, the relocated Japanese are to apply their labor to the extension of the main canal and to the leveling and subjugation of the land. After the war the Japanese are to be removed, thus allowing for the resumption of the original plan of Indian colonization.

In as much as a majority of the evacuees are American-born citizens and indisputably loyal to the United States, the onerous condition of involuntary segregation taxed all the experience of the Indian Service in human relations. As Commissioner Collier pointed out, the Japanese are quite different in temperament, background, and abilities from the Indians. Though the WRA praised the center as the best of all the projects,

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Commissioner Collier described the human problem involved as "challenging beyond belief," and asked, "what will this wholesale uprooting from their homes, this forced isolation and segregation, this temporary cessation from business activities do to the personalities of the Japanese evacuees, their attitudes, their initiative as future American citizens?" Most citizens, however, were unconcerned to find the answer, at least in the midst of the war; however, it was clear that the post-war world would impinge ethnic problems of tremendous magnitude, both at home and abroad. It was also clear that our historic relations to the American Indian, good and bad, provided a fund of experience with which to deal with the post-war world.

### SUPREME COURT DECISION ON ISSUE OF ABORIGINAL LAND RIGHTS

Received too late for inclusion in the 1941 report was the decision of the United States Supreme Court in the Hualpai case (*The United States of America, as Guardian of the Indians of the Tribe of Hualpai in the State of Arizona vs. Santa Fe Railroad Company*, 314 U. S. 339, Dec. 8, 1941). Students of Indian affairs regarded the decision as having far-reaching implications, and as another milestone in the Supreme Court's championship of Indian rights. In the case at bar, the issue was whether an Indian tribe could assert ownership of land because of its aboriginal occupancy thereof, as against the power of Congress to make grants of such land to others. The Supreme Court made it clear (a) that aboriginal occupancy establishes rights of possession; (b) that this policy extends to lands which have been under the prior sovereignty of various European nations—in this case, of Spain; (c) that a tribal right of occupancy need not be based upon a treaty, statute, or other formal action; and (d) that the extinguishing of tribal occupancy rights may not be inferred from general legislation that does not refer specifically to In-

dian rights or from administrative action taken under such legislation, even though such administrative action may in fact interfere with the full enjoyment of such possessory rights.

The position of the Court thus reaffirmed and strengthened legal reasoning as to the possessory land rights of Indian tribes that extended back to and beyond the founding of the nation. It was a heartening and reassuring decision to many tribes, and its significance was soon appreciated when the Solicitor of the Department of the Interior, Nathan R. Margold, rendered an interpretation of the Court's decision on Feb. 13, 1942, in which he applied the reasoning of the Hualpai case to the rights of the natives in Alaska, holding that the same principles were applicable. Newspapers in Alaska and on the northwest coast of the United States vigorously protested the opinion in news articles and editorials. It was foolishly charged that Secretary of the Interior Ickes was preparing to turn over the Territory of Alaska to the Indians. The fast dispossession of Alaska natives from their traditional fish trap sites has over many years created considerable criticism of the Government for its failure to render the natives adequate protection in their property rights. Once implemented in the regulations of the Department of the Interior, the Solicitor's opinion promises to become a tremendous factor in the welfare and economic progress of the Indians and Eskimos of Alaska. It seemed likely, however, that the issue, involving large economic interests, might be delayed until after the war so as not to interfere with the production of food at a critical time.

### INTER-AMERICAN INDIAN AFFAIRS

The Inter-American Indian Institute (see *THE AMERICAN YEAR BOOK*, 1942, p. 570) completed its permanent organization as an official international body in March 1942 at Mexico City. John Collier, U. S. Commissioner of Indian Affairs, was elected

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president of the Governing Board, composed also of the following representatives of member countries which had ratified the convention of 1940: J. Edgardo Valenzuela, Honduras, vice president; Luis Robalino Dávila, Ecuador; Héctor Escobar Serrano, El Salvador; Isidio Candia, Mexico; Lorenzo Guerrero, Nicaragua; and Tomás G. Perrin, Paraguay. Ratification of membership was still pending in Panama, Cuba, Costa Rica, and Peru. The Institute appointed Dr. Manuel Gamio, Mexican anthropologist and internationally known for his excavations of the pyramids of Teotihuacan, as permanent director with direct charge of editing its publications and of conducting its affairs at Mexico City (Londres 64). The Institute was initially active in securing the establishment of national Indian institutes in several Latin American countries. A number of projects was begun and reported in detail in the Institute's quarterlies, *América Indígena* and *Boletín Indigenista*. In cooperation with the Government of Mexico, the Institute began work on a multilateral treaty to eliminate import and export duties on the raw materials which enter into the manufacture of Indian arts and crafts. As co-sponsor with the Pan American Sanitary Bureau, the Institute launched a study of onchocercosis, a disease prevalent in southern Mexico and Guatemala among the Indians, to discover methods of medication and control. A permanent exhibition of Indian arts and crafts was established at Mexico City.

In the United States, the National Indian Institute, established in the Department of the Interior, was extremely active in all these undertakings. During the year it issued seven monographs in Spanish on various topics of American Indian affairs, for distribution in Latin America, while at the same time preparing a similar series in English by various Latin American authors for distribution in the United States. It developed a plan to utilize the facilities of the Office of Indian Affairs in the inservice training of a group of gov-

ernment technicians from a number of Latin American countries. Illustrative of the type of service it was in a position to render was its report on the relationship of Brazilian Indian labor and the Brazilian Indian Service to the rubber collection program of the Board of Economic Warfare and of the Rubber Reserve Corporation. A similar task of collaboration was its cooperation with the Ethnogeographic Board in the preparation of a report on the conditions of the Bolivian Indians and their relation to the mining industries of that country. It received requests for recommendations from the BEW and the Metals Reserve Corporation in connection with a contract with the Kami mine in Bolivia, and from the Coordinator of Inter-American Affairs in regard to a projected educational program to deal with the problem of illiteracy in Latin America. Ernest Maes of New Mexico became the secretary of the National Institute, after the resignation of Charles W. Collier who joined the staff of Ambassador Pierre Boal in Bolivia.

#### RESEARCH

The Bureau's collaborative research with the University of Chicago (see THE AMERICAN YEAR BOOK, 1942, p. 573) into the development of Indian personality was intensively continued by field work in 14 communities (Sioux, Pueblo, Papago, Hopi, and Navajo reservations). The utilization of lay workers, including Indians, was proving to be entirely feasible. A projection of this investigation into Mexico was arranged with governmental and private agencies of that republic and under the direction of the Inter-American Indian Institute. Paralleling studies of Indian diet were initiated among the Papago, Hopi, and Pueblo Indians through the Department of Anthropology of the University of Chicago, with various Indian personnel assisting. The Home Economics staff at the Phoenix Indian School initiated an experimental project in the dehydration of vegetables, citrus fruits, and melons, in cooperation



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with the U. S. Department of Agriculture, the purpose being to provide a practical demonstration which could influence food conservation by families in small communities. A lively interest prevailed in Latin America on the forthcoming report of Luis Chavez Orozco, the Mexican scholar and former head of the Department of Indian Affairs, who was engaged upon a basic study of the manifestations of Indian democracy in Mexico from the conquest through the nineteenth century.

### PERSONNEL OF SERVICE ABROAD

Recognition of the unique experience of Indian Service personnel was seen in the number who were drafted during the year for foreign service, of whom principally the following may be mentioned: to Arabia Saudi, A. L. Wathen, chief of the Bureau's Engineering Branch, as a member of the American Agricultural Mission, organized by the State Department on the invitation of the King of the country; to Ecuador, John M. Cooper, director of the Southwest Range and Sheepbreeding Labora-

tory, as a member of the Ecuadorian Economic Survey Mission, organized by the Office of Foreign Agricultural Relations of the Department of Agriculture and the Office of the Coordinator of Latin American Relations; to the Andean republics of South America, Willard W. Beatty, director of the Education Division, for the Rosenwald Fund, to report upon the status of rural education and rehabilitation in those countries; and to South America, René D'Hannoncourt, director of the Indian Arts and Crafts Board, for the Art Committee of the Coordinator of Latin American Relations.

### PUBLICATIONS

An outstanding collection of critical papers on various aspects of Indian welfare and administration, *The Changing Indian*, edited by Oliver LaFarge (University of Oklahoma) was published. The Indian Bureau's Education Division published three additional titles in *The Indian Life Series* for bilingual readers, a *Manual for Indian Schools*, and *Suggested Books for Indian Schools* (bibliography).

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. ON INDIAN AFFAIRS, INC., 381 Fourth Ave., New York City.  
AMERICAN COLONIZATION SOCIETY, 514-6 Colorado Bldg., Washington, D. C.  
AMERICAN ETHNOLOGICAL SOCIETY, Columbia University, New York City.  
AMERICAN EUGENICS SOCIETY, INC., 1790 Broadway, New York City.  
AMERICAN JEWISH COMMITTEE, 386 Fourth Ave., New York City.  
ANCIENT ORDER OF HIBERNIANS IN AMERICA, 1648 Westmont Ave., Pittsburgh, Pa.  
BIRTH CONTROL FEDERATION OF AMERICA, INC., THE, 501 Madison Ave., New York City.

ENGLISH-SPEAKING UNION OF THE U. S., 30 Rockefeller Plaza, New York City.  
FEDERATION DE L'ALLIANCE FRANÇAISE, 22 E. 60th St., New York City.  
FEDERATION OF POLISH JEWS IN AMERICA, 225 W. 34th St., New York City.  
HEBREW SHELTERING AND IMMIGRANT AID SOCIETY OF AMERICA, 425 Lafayette St., New York City.  
HOLLAND SOCIETY OF N. Y., 90 West St., New York City.  
HUGUENOT SOCIETY OF AMERICA, 122 E. 58th St., New York City.  
INDIAN RIGHTS ASSN., INC., 301 S. Seventeenth St., Philadelphia, Pa.  
INTER-AMERICAN INDIAN INSTITUTE, THE, Londres 64, Mexico City, D.F.



#### XIV. POPULATION AND MIGRATION

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| <p>JEWISH NATIONAL WORKERS' ALLIANCE OF AMERICA, 45 E. 17th Street, New York City.</p> <p>JEWISH WELFARE BOARD, 220 Fifth Ave., New York City.</p> <p>MILBANK MEMORIAL FUND, 40 Wall St., New York City.</p> <p>NATIONAL ASSN. FOR ADVANCEMENT OF COLORED PEOPLE, 69 Fifth Ave., New York City.</p> <p>NATIONAL COMMITTEE ON MATERNAL HEALTH, 2 E. 103rd St., New York City.</p> <p>NATIONAL COUNCIL OF JEWISH WOMEN, 1819 Broadway, New York City.</p> <p>NATIONAL INDIAN INSTITUTE, THE, Dept. of Interior, Washington, D. C.</p> <p>NETHERLAND-AMERICAN FOUNDATION INC., 10 Rockefeller Plaza, New York City.</p> | <p>POLISH NATIONAL ALLIANCE, 142 Grand Ave., Brooklyn, New York City.</p> <p>POPULATION ASSN. OF AMERICA, U. S. Bureau of the Census, Washington, D. C.</p> <p>POPULATION RESEARCH, OFFICE OF, 20 Nassau St., Princeton, N. J.</p> <p>SCRIPPS FOUNDATION FOR RESEARCH IN POPULATION PROBLEMS, Miami University, Oxford, O.</p> <p>YOUNG JUDAEA, INC., 381 Fourth Ave., New York City.</p> <p>YOUNG MEN'S HEBREW ASSN., Lexington Ave. and 92nd St., New York City.</p> <p>YOUNG WOMEN'S HEBREW ASSOCIATION, 31 West 110th St., New York City.</p> <p>ZIONIST ORGANIZATION OF AMERICA, 41 E. 42nd St., New York City.</p> |
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## DIVISION XV

### SOCIAL PROBLEMS AND CONDITIONS

#### PUBLIC AND PRIVATE SOCIAL SERVICES

By RALPH E. SPEAR

EXECUTIVE ASSISTANT, AMERICAN PUBLIC WELFARE ASSOCIATION

##### WARTIME SOCIAL SERVICES

The year 1942 presented a major challenge to the social services for the second time in little more than a decade. In the early years of the depression a slender organization of public and private social services was called upon to provide food, clothing, shelter, and a minimum number of other essentials to about one-sixth of the nation—millions upon millions deprived of their livelihood by the breakdown of the economic system. Now an organization of much greater size, which has come to know thoroughly and administer with increasing effectiveness a system of material assistance to people in need, is faced with a growing demand for service in adjusting family and personal dislocations. The demands of the armed forces and of war industry have wrought great changes in family life, and all of the resultant problems are not solved by increased prosperity or the decline in need for relief.

Private social service agencies have placed more emphasis on service than on assistance in recent years; but, as in the early years of the depression, the problem is too great for their combined facilities, and the vast network of public social services are faced with the need of partial conversion to meet the new problems.

All this does not mean that the continuing function is being forgotten. Millions of individuals are still dependent on public assistance for

their livelihood, and the public agencies are aware of their continuing responsibilities to provide that assistance. It does mean, however, that with reduced staffs and reduced appropriations the public social services have a staggering job to do.

##### PUBLIC-PRIVATE RELATIONSHIPS

Actual wartime conditions began to reveal a few dangerous strains in the cooperative fabric woven during the defense period. There were evidences that the United States Organizations were less united than had been hoped. From Army posts and Naval stations came stories of competition, of insistence on identification of the individual constituent organizations with particular activities undertaken. There were minor jurisdictional differences between the U.S.O. and the American Red Cross. There was some disagreement as to the home service responsibilities of the Red Cross organization.

Perhaps the most serious disagreement among the private agencies came during the middle of the year when there was a movement of considerable strength to unify the fundraising activities of foreign relief appeals, the community chests and councils, the United Service Organizations and the American Red Cross, in a war chest campaign. The idea found favor in many communities since it would allow for elimination of duplicating volunteer visits and

would permit donors to make their entire contribution at one time. The effort failed, however, when an exchange of letters between Chairman Davis and President Roosevelt revealed the President's decision that the Red Cross was in a peculiar position and should not be tied down to any agreement concerning joint appeals.

While in the First World War the Red Cross had been forced to rely for service upon the postmaster, storekeeper, or police chief in small communities where it had no professional facilities, it has been able in the present conflict to utilize the services of a nation-wide public assistance structure whose facilities reach the remotest hamlet in the country. Such services have been eagerly used and willingly provided, but many thoughtful public welfare administrators have questioned whether this cooperation in its present form may not be self-defeating. Legislative officials have been too eager to cut expenditures and have been inclined to view with suspicion requests for staff to meet such demands, quoting the fund-raising publicity of the American Red Cross to substantiate their claims that the public agencies have no responsibility in that area.

An encouraging note was struck, however, at the year-end meeting of state and local administrators of the American Public Welfare Association. While these differences were openly discussed it was concluded that the need of individuals for service transcends jurisdictional differences, and that every effort should be made to work cooperatively to meet those needs.

### **WAR SERVICES OF LEADING PRIVATE AGENCIES**

**Red Cross.**—Of all the private agencies providing services in the present conflict, the American Red Cross emerged during 1942 in unquestionably the strongest position. Through an expanded organization within this country it has developed its home service program for service

and ex-service men and their dependents and has increased the tempo of its programs for volunteers. Its services to the sick and wounded with the armed forces have been well publicized and have aided immeasurably in enlisting support for its services at home.

Toward the end of the year, both the Army Emergency Relief and the Navy Relief Society issued statements of agreement with the American Red Cross. The statement covering the Army-Red Cross relationship reads, in part:

"The Army and Army Emergency Relief recognize that, consistent with the Congressional Charter of the Red Cross . . . the primary responsibility for a broad program of voluntary aid to personnel of the Army and their dependents rests with the Red Cross. . . .

"It is further recognized that Army Emergency Relief should not be substitute for, or a duplication of, or act in competition with, Red Cross. Army Emergency Relief shall act only as a supplement in certain special cases or situations to the welfare activities of Red Cross."

**Army Emergency Relief.**—The fund-raising activities of Army Emergency Relief were brought to national attention during the fall when the Secretary of War cancelled plans for a heavyweight championship boxing bout between two servicemen, a portion of the proceeds of which was to have gone to Army Emergency Relief. Other sources of revenue were a very popular revue, "This is the Army," with a cast of servicemen, and a series of war shows, which have been touring the country. The Secretary's action apparently signalized a change in official policy consistent with the recognition of primary Red Cross responsibility.

**The Navy Relief Society,** which was incorporated in 1904, did not concede so much responsibility to the Red Cross. With its auxiliaries already established at all Navy yards and principal naval stations, it reiterated its responsibility of providing aid in times of need to naval per-

## PUBLIC AND PRIVATE SOCIAL SERVICES

sonnel and their dependents as well as the dependents of deceased naval personnel. The Navy Relief Society agreed not to expand its auxiliaries on a nation-wide basis, and pledged continued use of Red Cross facilities for necessary fact-finding functions incidental to its program.

**United Seamen's Service.**—Toward the end of the year a new national private agency was announced to serve the men who have had the heaviest proportional casualties in the war thus far—the merchant seamen. The United Seamen's Service, a non-profit corporation, was organized to provide men of the American Merchant Marine with rest homes for those suffering from war nerves as a result of torpedoings, and with recreational clubs and other welfare services. These facilities will not be confined to United States ports, but will be developed at major United Nations ports throughout the world.

**The United Service Organizations** announced in the spring a goal of \$32,000,000 to be raised by popular subscription to finance its activities for the second year. At the time the campaign was announced, the U.S.O. released statistics on its activities to date. At the end of March it had 413 service clubs, 19 club houses, and additional units in six foreign bases. It also had traveling groups to help local communities provide facilities for soldiers on maneuvers and mobile field units to serve men in outposts far from U.S.O. clubs. In its entertainment program it had theaters in 225 Army camps and Naval stations with 24 companies of entertainers giving free shows every two weeks.

### PUBLIC ASSISTANCE

With employment increasing tremendously during 1942, it was to be expected that there would be a reduction in both the number of persons receiving public assistance and the total amount of assistance granted, although it could not be expected that either reduction would keep pace with reemployment. As has been the case with each improve-

ment in business during the depression, the self-sustaining unemployed have been the first reemployed and those employed on work projects have been next, with the public assistance group affected to a much lesser degree.

The most marked drop, of course, was in the total number of cases receiving general assistance. In August, 1941, there were 859,000 such cases, while in August, 1942, there were only 550,000. The increased cost of living, however, prevented a commensurate decrease in the total amount of general assistance payments per month, the decrease being from \$19,645,000 to \$13,310,000 for the same period.

While the number of families receiving aid to dependent children was higher in August, 1942, than it was a year earlier (383,459 as against 374,473), it should be noted that there was a steady decline even in this group since March, 1942, at which time there were 398,533 families so aided. Again, however, the total amount of assistance granted per month has decreased at a much lesser rate—from \$13,597,643 in March to \$13,283,744 in August.

The effect of reemployment could also be seen in the retardation of the rate of increase in the number of old age assistance recipients. In the six-month period from August, 1941 to February, 1942, the number of aged persons receiving assistance increased slightly more than two per cent (from 2,198,060 to 2,244,703); but from February to August, 1942, it increased less than two-tenths of one per cent (to 2,250,892). It should be further noted that from June to August there was an actual decrease of about 2,400 recipients. Total monthly payment continued to rise, however, from \$45,763,237 in August, 1941, to \$50,102,706 a year later.

Only the program of aid to the blind has shown a sustained increase in both number of persons aided and total aid per month. In August, 1941, 50,208 blind persons received \$1,184,254 in states with federally approved plans of aid to the blind,



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while in August, 1942, 54,601 blind persons received \$1,341,065.

In all programs of public assistance, public welfare administrators have been concerned with the increase in living costs. In industrial centers particularly, assistance recipients were unable to compete with self-supporting individuals for decent housing, with the result that the worst facilities only have been available to them. Rising food costs also affected adversely those who have been dependent on the minimum living standard contemplated in public assistance budgets. While many public agencies adjusted their assistance budgets upward during the year, such increases did not keep pace with rising living costs, and the net result was a decrease in the living standard.

### WORK PROGRAMS

The effect of reemployment was most marked, as might be expected, on those programs operated by the Federal Government to give work to the able-bodied, needy unemployed. The Civilian Conservation Corps, one of the most popular of the "alphabetical" agencies, was discontinued in June. The National Youth Administration experienced a steady decline in its work project enrollment, and at the end of the year was largely a vocational training agency for youth.

The Work Projects Administration showed a very sharp decline during the first eight months of 1942. The number of persons employed dropped from 995,000 in January to 428,000 in August. Total W.P.A. monthly earnings dropped from \$61,763,000 to \$30,938,000 in the same interval. Finally, in December, President Roosevelt ordered the liquidation of all W.P.A. projects by Feb. 1, 1943, or as soon thereafter as possible. Thus came to a close one of the most controversial of the depression-born agencies. Its critics had charged it with waste and inefficiency. Its defenders had pointed to its 644,000 miles of road construction, its 77,000 bridges, its schools, hospitals, court-houses, and other public buildings

totalling more than 100,000, its improvements to 800 airports, its guide-books, its murals, its tuberculosis research. All could reflect that, at a cost of \$10,500,000,000 it had employed some 8,000,000 persons with 30,000,000 dependents.

In commenting on its conclusion, President Roosevelt said that it has "added to the national wealth, repaired the wastage of depression and strengthened the country to bear the burden of war . . . (It has) earned an honorable discharge."

### SERVICEMEN'S DEPENDENTS ALLOWANCE ACT

The passage of the Servicemen's Dependents Allowance Act in June, 1942 was a significant step in the prevention of need on the home front. Millions of young men had already been inducted into the Army or had volunteered for service in the Navy, many of whom had left families behind, at least partially dependent on them for support. It was clear that more and more men with dependents would be entering the armed forces, and some type of additional compensation seemed indicated. Under the act, dependents of a soldier or sailor in the four lowest grades may receive allowances consisting of an allotment from the serviceman's pay and a contribution from the Government. The total amounts of the allowances vary according to the number of dependents. (Examples: wife—\$50 per month; wife and one child—\$62; wife and two children—\$72; one parent—\$37; two parents—\$47.)

Possible dependents are divided into two classes. Class A dependents (wife, children, former wife divorced) are entitled to allowances irrespective of actual financial dependency on the serviceman. Class B dependents, however, (parents, brothers and sisters, grandchildren) must have been actually dependent on the serviceman for a substantial part of their support in order to be eligible.

The net effect of this act has been to sustain a great many families of servicemen who might otherwise have

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been dependent on public assistance throughout the war. The program is administered by the Army and Navy, and applications are supported by documentation rather than by individual investigations.

### WAR RELOCATION AIMS AND PROBLEMS

On March 18, 1942, the War Relocation Authority was created by Executive Order of the President. Its responsibilities, as set forth in the order, were to: (1) accomplish all necessary removal of excluded persons from prescribed military areas, where not undertaken by the Secretary of War or appropriate military commander; (2) provide for the relocation in appropriate places, meet the financial needs, and supervise the activities of such persons as are forced to move from the military areas; (3) provide for the employment of such persons at useful work, prescribe the terms and conditions of employment on public projects, and safeguard the public interests in the private employment of such persons; and (4) secure cooperation, assistance or services of other governmental agencies and consult with the Secretary of War with respect to regulations issued and measures taken by him. Reception centers have been set up throughout the Mountain States region, and large numbers of individuals have already been moved to them.

An allocation of Federal funds for assistance to aliens of enemy nationality was made early in the year. Utilized chiefly in the evacuation of the Japanese from the West Coast, this type of assistance was made available through the Bureau of Public Assistance of the Social Security Board. Subsequently plans were completed for its administration by state and local agencies. Later in the year, arrangements were made through the Swiss Government for the relief of certain aliens of enemy nationality out of funds provided by the Axis nations. In such cases, aid would be furnished by the local public welfare agency, with reimbursement forth-

coming through the nearest Swiss consulate.

Early in 1942 an allocation of \$5,000,000 from the President's emergency fund was made to the Federal Security Agency to meet war-related needs. Almost immediately the money was utilized in the following ways: (1) assistance to civilian evacuees from Hawaii and Alaska, administered by the Bureau of Public Assistance of the Social Security Board; (2) temporary benefits to dependents of civilians affected by enemy action outside the continental United States, administered by the Bureau of Old Age and Survivors Insurance of the Social Security Board; and (3) medical care to persons injured by enemy action, administered by the United States Public Health Service.

### PUBLIC WELFARE SERVICES AND THE WAR EFFORT

Probably the advantages of "going concerns" in the field of local public welfare administration have been most noticeable in connection with civilian defense preparations. The recommended plan of the Office of Civilian Defense includes provision for an Emergency Welfare Service within the local defense council organization. In most large communities the structure of the public welfare organization has been utilized in setting up this service. The local public welfare administrator is frequently found to be the Chief of Emergency Welfare Service.

According to the official bulletin of the O.C.D., "The Emergency Welfare Service includes those types of service and assistance provided to meet the varied social or economic needs of civilians which result from enemy action. Such needs include not only emergency food and housing for those who are rendered homeless by attack, but also those social services necessary to re-establish families and to get workers back to their jobs as quickly as possible.

"Specifically, provision should be made for: (1) Information and registration centers in order to facilitate

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the reuniting of families, to extend advice and counsel, and to answer inquiries; (2) temporary rest centers where food, shelter, and other forms of emergency aid would be immediately available; (3) provision for rehousing families who have been rendered homeless; (4) cash assistance to those who have lost all immediate resources; (5) removal and storage of furniture and other effects from damaged buildings; (6) minor repairs to homes which can be rendered habitable; and (7) replacement of tools and other working materials to return workers to productive status."

In the above outline, it may be noted that the experience of the British is being of profit to us.

### **SELECTIVE SERVICE DEPENDENCY INVESTIGATIONS**

Another contribution of public welfare agencies to the war effort has been in the conduct of dependency investigations for local selective service boards. In all states there is cooperation of public agencies in this program, and in all but a few states it is the fullest degree of cooperation possible. In the first days of the selective service program, some agencies were inclined to restrict service to those cases previously known to their agencies, but when the true need for service became known, nearly all agencies gave full cooperation. In at least one large city, public and private agencies donated a staff to make up a Dependency Investigation Unit within the Selective Service System.

### **AIDS IN MANPOWER MOBILIZATION**

Public welfare agencies have many contributions to make to the program of manpower mobilization. The welfare-related problem, which probably received most mention in the press during the year, was the provision of day care for children of working mothers. Involving as it does both foster care and nursery school care, such a program is of concern both to child welfare and education authorities. In general, public

welfare officials were inclined to proceed slowly in building up day care facilities beyond the point of demonstrated need, since they felt that the mother of young children could make a more important contribution to the war effort by providing normal family surroundings for their children than by working in war factories. This attitude was also reflected in the policies of the War Manpower Commission, which stressed the importance of the family responsibility of mothers of young children. Recognizing, however, that some day care facilities were needed and that the demand might grow as other potential labor resources were drained, welfare agencies on Federal, state, and local levels, in cooperation with private agencies and defense councils, busied themselves with surveys of needs. (Some communities preferring direct action, worked out elaborate day care programs only to find a lack of children needing care.) The result was that at the end of the year there was a considerable amount of planning for day care facilities but few facilities in operation.

Other steps in connection with manpower mobilization which received attention during the year, but on which relatively little concrete action resulted were: (1) provision of social counselling service to industrial workers; (2) provision of temporary financial assistance to assist in the relocation of workers in war production centers; and (3) revision of restrictive settlement laws which tend to discourage those marginal workers to whom settlement offers some security on at least a relief level from moving to an area where there is some chance of becoming self-supporting.

### **VENEREAL DISEASE CONTROL**

Both public and private agencies saw an opportunity for real service in connection with the program of venereal disease control. The Social Protection Division of the Office of Defense Health and Welfare Services adopted a policy of repression of prostitution rather than the traditional



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and ineffective attempts at regulation. State and local police, health, and welfare officials were asked to co-operate in a program of apprehension and treatment. Recognizing that health treatment alone is of only limited, immediate value, the Social Protection Division asked for programs of social rehabilitation, particularly for the young girls who were not professional prostitutes. In those areas where local police enforcement was lax, the Secretary of War was empowered to proclaim Federal enforcement, but every effort was made to avoid such a step by encouraging the development of local facilities.

### STATE PUBLIC WELFARE LEGISLATION

The year 1942 was not a "legislative" year, since only eight state legislatures met in regular session. Special sessions were held in seven other states. As might be expected, most sessions were concerned with wartime measures, but some enactments in the public welfare field were worthy of note.

Beyond a doubt, the most significant step was taken in Rhode Island where the settlement law was abolished. Henceforth, aid can legally be given to any needy applicant in the state regardless of the length of his residence there. Also of interest in this connection was the summarized finding of a two-year study of settlement and migration problems by the New York State Department of Social Welfare: "Our settlement laws, perhaps once suitable to a static agricultural economy, are no longer useful and have no place in a modern dynamic industrial society."

Rhode Island also had the distinction of being the first state in the Union to adopt a program of cash sickness compensation. This step may well foreshadow the next type of social insurance to find favor in this country.

Public assistance legislation was in general confined to minor liberalization of the categories. California urged Congress to allow earnings of

old age assistance recipients up to \$15 per month without deductions from the assistance grant. Pennsylvania favored cost-of-living increases in all three categories. Rhode Island provided that the ownership of insurance policies in which the equity was less than \$500 would not disqualify an applicant for old age assistance. New York and Virginia raised the age limit for aid to dependent children from 16 to 18 years in accordance with last year's Federal amendment.

Other welfare legislation during the year related chiefly to refinements of merit system provisions, provision of standards for the regulation of children's services, and routine appropriation measures.

### ADMINISTRATIVE PROBLEMS

At the same time that public welfare agencies were striving to provide new services, administrative problems were arising to make the job more difficult. Perhaps the two most vexing problems were those relating to personnel and staff travel.

Throughout the year public welfare administrators reported the loss of trained and experienced staff to the armed forces, the Red Cross, the U.S.O., and to war industries. In many agencies the turnover during the year exceeded 100 per cent. Replacements at such a rate put heavy strains on the merit systems, and in some jurisdictions salaries were so low that no candidates meeting the qualifications were willing to take the examinations. In some such situations the salary was apparently regarded as the fixed factor, and standards were lowered through the use of provisional appointments. Attempts were made to cope with this problem through scholarships, in-service training programs, and the use of volunteers.

The tire and automobile rationing programs added to the difficulty of providing services during the past year. With so much of the judgment as to whether or not public welfare service is an essential public service left in the hands of the local rationing boards, the reactions were very



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uneven. In one urban area, a social worker would be permitted to buy a new car or retreaded tires even though common carriers might be accessible, while in a rural county with no medical, hospital, nursing, or common carrier service, the social worker upon whom the entire assistance population depends for transportation to such services finds her application for retreads denied. In most localities, however, whether by necessity or choice, restrictive policies on travel were adopted by public welfare agencies, and substitute procedures were designed to safeguard the assistance programs.

### POST-WAR PLANNING

Out of the welter of public discussions came indications that Americans in all walks of life were concerned about the shape of things to come. The magazine *Fortune*, in one of its polls of public opinion, discovered that the American people favor Federal taxation to provide (1) medical care for everyone who needs it (74.3 per cent favor it); (2) an old age pension for every citizen over 65 (73.8 per cent favor it); (3) jobs for everyone who is able and willing to work but can not get a job in private employment (67.7 per cent favor it); and (4) compensation for everyone unable to find work until he can find work (57.8 per cent favor it).

Later in the year there were increasing signs that the business world favored some expansion of social security. *Fortune* put forth editorially the following proposals for postwar prosperity: (1) an expanded social security program, including increased government responsibility for public health, housing, nutrition and education; (2) advance planning of public works to meet the falling off of private employment; and (3) stimulation of private initiative.

Before the National Association of Manufacturers, Henry J. Kaiser said: "Let it be said again that there will never be any significant prosperity in America as long as there are great

hosts of people living on the margins of poverty."

Widespread public interest was also aroused by news of the publication of the so-called Beveridge Report in Great Britain. In essence, it proposed a compulsory system of comprehensive social insurance covering every person in Great Britain. Premiums would be paid partly by employees, partly by employers, and partly by the Government. It proposed a floor for the standard of living.

The end of the year found public welfare administrators looking forward eagerly to the release of a report prepared by the National Resources Planning Board as a result of a two-year study of social security and public welfare programs.

### SUMMARY OF THE PUBLIC WELFARE JOB IN WARTIME

Public welfare administrators found themselves confronted this year with vexing problems of administration and program. In the confusion attendant upon the emergence of new needs, it has not always been clear as to what the public welfare job in wartime really is. Its essence may be found in a letter addressed to the members of the American Public Welfare Association by its Director, Fred K. Hoehler:

"For the past ten years the state and local welfare departments have been absorbed with problems of relief—public assistance, child welfare, and reemployment. These were the big emergency jobs before the country. We fed people, housed them, provided work for unemployed, and tried to protect children and the health of all. The lack of funds and the pressure of work made these human services difficult and sometimes heartbreaking because we could do so little where so much needed to be done.

"Today many of the people who were on relief have found income from work in war industries. Some of the men of these families are in the armed services. Their work and services are possible now largely because of the care they received from

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public departments and in spite of its inadequacy. The public assistance job for the aged, the blind, and children is still an important part of the welfare function, as is child welfare service. Smaller public assistance rolls may mean an opportunity to do a better piece of work with those who still need aid. This is particularly true in the service and the financial assistance which welfare departments must give to children. Certainly if this nation still has a job to do, it is among those children who have been denied adequate food and health services to make them fit for proper service to their communities in the days following the war.

"In addition, there are new responsibilities, actual or potential, ahead for public welfare departments. Nearly all departments now conduct dependency investigations for Selective Service. These are continuing and are becoming more urgent and important in many parts of the country. There is also counseling on a short interview basis which has grown up in some departments. This is particularly true in large communities where new families have come to participate in industrial work. It grows out of the need for men and women to bring about their proper adjustment to community life and to receive some aid in facing the problems of social and individual adjustment in the new environments where they are employed. This involves consultation on housing, economic problems, domestic difficulties, and a host of other matters.

"There is also the growing problem of juvenile delinquency, especially among young girls. Here is a place

where parent counseling may be important, and also where greater coverage and more adequate payments in the aid to dependent children program are extremely urgent.

"Civilian assistance programs for emergency needs are important in some parts of the country and may any day take on serious proportions in relation to other parts of the program. This gives the assurance to the people of the United States that the welfare services provided by their government will be available to assist them in meeting any emergencies which may arise from enemy attack.

"The basic job of community organization requires leadership and participation from public welfare departments. My own observations in many parts of the country have convinced me that this is not being tackled by most public welfare agencies, partly because of the lack of funds and also because of the lack of staff, but it is, in the opinion of the War and Navy Departments, one of the outstanding needs in the concentrated areas near industrial plants and camps.

"More nebulous but none the less important is the job your agency can perform in the creation of public morale. Participation in the war effort—an equal share of responsibilities and costs—a sense of protection and security under a democratic government—are all part of the social program which is essential to the total morale of the country. A considerable amount of imagination with hard work and, when necessary, long hours, are essential components in the make-up of any agency trying to build morale in these times."

## PRISONS AND CRIME CONTROL

By JAMES V. BENNETT

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### PRISON POPULATION

The total population of the state and Federal prisons and reformatories in the United States, which has

been decreasing quite consistently since Jan. 1, 1940, is estimated to total 150,000 on Jan. 1, 1943. The approximate total number of Federal

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prisoners in custody in Federal as well as non-Federal institutions, which decreased from 25,456 on Jan. 1, 1940 to 23,116 on Jan. 1, 1942, is expected to decrease still further to approximately 21,200 by Jan. 1, 1943. The number of Federal probationers under supervision is also expected to decrease to about 27,200 by Jan. 1, 1943.

### EFFECT OF WAR UPON PRISONS

While the steadily decreasing population of the penal and correctional institutions throughout the country may be ascribed to the war, it is perhaps the least significant and certainly the least dramatic of the many ways in which the first year of the war has affected the operation and administration of all these institutions. Many of these changes have brought with them a liberalization of parole policies, of the acceptance and use of available prison labor in war production, a change in the public attitude toward the use of the so-called ex-prisoner in industry, agriculture, and in the armed services. All of these changes represent advances in the field of penology, and all forward looking prison administrators are concerned about establishing these accomplishments on a permanent basis.

The passage of a law approved July 29, 1941 opened the way, for the first time in over 100 years, for the induction of ex-prisoners into the armed services. Further progress along these lines was made during calendar 1942 when a tentative plan was developed in collaboration with the Selective Service System and the Federal Bureau of Prisons under which all prisoners confined in the prisons and reformatories will be classified under the Selective Service Act. This, in effect, is an extension of the principle of individual treatment. The plan makes it possible to consider each case upon the basis of its individual merits while the man is still confined in the institution. Thus the institutional officials and the paroling authorities can coordinate their efforts in making definite release plans for

each prisoner and in making available for the Army only the best qualified prisoners.

### WAR USE OF PRISON MANPOWER AND EQUIPMENT

In addition to the efforts made toward the placement of prisoners and released prisoners into the various branches of the armed services, considerable interest was aroused about the use of available manpower and equipment in the penal institutions in the country. At the request of the President, the chairman of the War Production Board appointed an Institutional Supplies Committee on which were represented the War Production Board, the Department of Labor, and the Department of Justice. This Committee in cooperation with the Prison Industries Resources Section of the Bureau of Governmental Requirements of the War Production Board concerned itself with the establishment of policies and procedures for bringing state prison industries and Federal procurement agencies together.

An unusually comprehensive survey of the equipment, manpower, and production possibilities of state prison industries was completed in 1942. This survey showed nearly 100,000 state prisoners and several million dollars worth of equipment available for war production. Regional conferences of Federal procurement officials and state prison officials were held in various sections of the country. As a result of these activities, the prisons of at least 15 states and the district of Columbia were engaged in war production work. All this was made possible through a ruling of the Attorney General that there was no legal provision prohibiting the purchase by the Federal Government of articles manufactured or produced by state prisons or other correctional institutions.

### PAROLE POLICIES IN RELATION TO WAR PRODUCTION

The almost unprecedented demand for manpower in industry and agriculture has brought about several con-

structive liberalizations of parole policies in many states. The most interesting and effective plan in this connection is that worked out in California and adopted by the Board of Prison Terms and Paroles. Under this procedure eligible prison inmates in the California state institutions are released on temporary, restricted, and conditional parole to assist in the harvesting of crops due to the serious shortage of farm labor. In order to be eligible under this plan, the inmate must have served the minimum sentence as described by the Indeterminate Sentence Law of the state and must be selected by the institutional Classification Committee. Men thus selected are sent out in crews of 40 to 50 with a supervisor in charge. Prevailing wages are paid into the account for each parolee for which the warden is trustee. These funds are turned over to the individuals when permanent paroles have been granted. Other conditions of this employment are that the parolees must be fed at a reasonable cost to them, suitably housed, and otherwise fairly treated. Farmers using this help report satisfaction with the plan, while parolees are very generally grateful for the new opportunity. In October 1942, it was reported that approximately 500 of these men were out in various parts of Central California engaged in harvesting beets, cucumbers, grapes, pears, etc. Several other states have adopted similar plans.

### PAROLE DEVELOPMENTS AND PROCEDURES

Although the war has had many repercussions upon parole procedures, a very significant development in this field has been the organization of the American Parole Association. The idea of a national organization to advance good parole has been generally accepted and twenty-five states have thus far made tentative pledges of financial assistance to the organization.

It can be stated that parole is now becoming more and more to be an accepted instrument of release, although parole development through-

out the country has been very uneven. The machinery by which parole is granted differs from state to state and even within a single state may vary according to institutions. Despite these variations, parole granting systems fall into three general categories, boards of parole, governors, and institutional boards. In 28 states, the District of Columbia, the Federal Government, and New York City, a board of parole is empowered to grant parole. In several of these states, however, the boards are composed in part or in whole of state officials, such as the attorney general, or the secretary of state. The significant point about this is that those states credited with good parole systems have full time paid boards, as is the case in New York, California, Michigan, Massachusetts, and Minnesota.

In 16 states, the power of granting parole is vested solely in the governor who is assisted by an advisory board or official. In other states, such as Connecticut and Indiana, a mixed system prevails. In Connecticut, the Institutional board and the warden at the State Prison have the power to parole. In Indiana the institutional boards initiate and recommend parole but the final authority lies in the state welfare department.

### INTERSTATE RELATIONS IN PAROLE WORK

The war has created an almost unprecedented mobility of population to war production centers. Interstate relationships in parole work are therefore becoming increasingly important. Some states now find themselves receiving, without their knowledge or consent, parolees from other states. Many states which pride themselves on their good parole work hesitate to send into rapidly growing war communities parolees who may not receive adequate supervision. The flow of population to new job opportunities has done a great deal to demonstrate the inherent reciprocity in the field of parole.

A definite system of interstate relationships dated back to 1934 when the United States Congress gave con-



sent to "any two or more states to enter into agreements or compacts for cooperative effort and mutual assistance in the prevention of crime or for other purposes." In 1935, the Interstate Commission on Crime was established, which drafted an interstate compact for reciprocal supervision and for the arrest and return of escaped parolees and probationers. Thirty-five states are now signatories to the interstate compact.

### INDETERMINATE SENTENCE

In June 1942, the Committee of the Federal Judicial Council appointed by the Chief Justice of the United States published a report on its study of problems arising out of punishment for crime. This report includes, among other very important sections, the drafts of three acts recommended by the Committee to the Judicial Conference of Senior Circuit Judges: (1) Draft of an Act to provide a Correctional System for Adult and Youth Offenders Convicted in Courts of the United States; (2) Draft of an Act to Provide Improvement in the Administration of Parole; and (3) Draft of an Act to Provide for Waiver of Indictment and Waiver of Trial by Jury in Criminal Cases.

These proposals are of extreme importance to Federal Court procedures and to the peno-correctional system. The recommendations of this report may be summarized as follows: (1) That final responsibility for sentencing be left in the Courts but that the exact sentence to be served by the offender will be determined only after a recommendation is submitted by a Board of Indeterminate Sentence and Parole following a period of observation and investigation of the prisoner; (2) That youthful offenders, under 24 years of age, be given spe-

cial correctional treatment for an indeterminate period not to exceed six years; and (3) That a Correctional Authority be appointed to coordinate the sentencing, institutional, and parole functions with power to lay down the general policies to be followed in the treatment of the offender both within the institution and on parole.

These proposals and recommendations take on added significance when it is remembered that crimes committed by persons under 21 years of age are a substantial proportion of the total amount of crime. In 1941, for the first time, the modal age for arrests dropped to age 18. This situation is undoubtedly a war phenomenon and may be due to a combination of such factors as increased mobility of families, decline in parental control, larger earnings for youths drawn into industry, and to some extent the war psychology.

### SOCIAL RESEARCH ON WAR AND CRIME

As part of the work of the Committee on Research on Social Aspects of the War, sponsored by the Social Science Research Council, a Research memorandum entitled "War and Crime" was prepared by Prof. Thorsten Sellin of the University of Pennsylvania and published in September 1942. This memorandum is of importance because it points out the many inadequacies of current research in the field of criminology and penology and emphasizes the opportunities presented by the war situation for compiling data and information on the problem of crime and the treatment of the criminal. The bulletin analyzes the question of the effect of war on the criminality of a nation and suggests a large list of research problems.

# HOUSING

## HOUSING

By HELEN C. MONCHOW

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### GENERAL

The year 1942 was epoch-making in the history of urban housing in the United States. In support of this statement it is necessary to cite only two pieces of evidence. One is the consolidation, for the first time, of all Federal governmental activity in this field into one over-all agency. The second is really the cause of the first. It is the fact that in 1942 urban housing felt the full impact of the transition from a defense to a war economy, with all that implied in terms of increased demands upon scarce materials, a critical manpower situation, and an overburdened transportation system. In short, the story of American housing in 1942 is simply the story of war housing or, more specifically, the gearing of housing activity to the total war effort.

### THE NATIONAL HOUSING AGENCY: ORGANIZATION AND FUNCTIONS

By Executive Order 9070, dated Feb. 24, 1942, the President consolidated into the National Housing Agency the housing functions of 16 existing agencies. These included the Federal Housing Administration, Federal Home Loan Bank Board, Federal Home Loan Bank System, Federal Savings and Loan Insurance Corporation, Home Owners' Loan Corporation, United States Housing Corporation (relict of the First World War and now in liquidation), United States Housing Authority, Defense Homes Corporation, the housing activities of the Federal Works Agency, of the Federal Public Buildings Administration, and of the War and Navy Departments (except for buildings on military reservations), the Division of Defense Housing and the Mutual Ownership Defense Housing Division in the Federal Works Agency, the defense hous-

ing and non-farm public housing of the Farm Security Administration, and the Division of Defense Housing Coordination. Thus, by this order, all governmental activities in the urban housing field, except those on military reservations, were brought under the supervision of the National Housing Administrator, and war housing was recognized and made an integral part of the nation's total war effort.

The Executive Order designated, as the three principal constituent units of the National Housing Agency, the Federal Home Loan Bank Administration, Federal Housing Administration, and Federal Public Housing Authority. The first two deal primarily with private home construction and financing; the third, whose nucleus is the former United States Housing Authority, deals with publicly built and financed housing.

### FUNCTIONS OF THE HOUSING ADMINISTRATOR

The functions of the National Housing Administrator are twofold. He is, on the one hand, the administrative chief of the consolidated housing agencies. At the same time, he is charged with planning and executing a unified and comprehensive housing program, now a war housing program. The execution of this latter function has led to the establishment of the Office of the Administrator which is responsible for the over-all planning of the war housing program.

The Office of the Administrator, as the administrative, fact-finding, and planning unit, has several important concerns which now may be reduced to three: (1) to estimate and plan for meeting the war housing needs in each of the so-called critical housing areas; (2) to see that that program is put into effect; and (3) to cooperate with the other Federal agencies

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whose programs affect those needs or the means of satisfying them.

In order to carry out these functions, the principle of decentralization has been applied to the organization of the Administrator's Office—a step which is dictated in part by the essentially "local" nature of housing activity. Thus, in addition to the central administrative office in Washington, ten regional offices have been established, each in charge of a regional representative who is responsible to the Administrator and whose job is to prepare the housing programs of the defense areas within his region and to see that those programs are carried out.

### FEDERAL HOME LOAN BANK ADMINISTRATION

The other constituent units of the National Housing Agency are the "task forces" which put into effect the plans mapped out in the Office of the Administrator. Thus, the Federal Home Loan Bank Administration continues to perform its established functions: (1) of providing through the Federal Home Loan Bank System a reservoir of mortgage credit for those seeking to finance, through private channels, the construction, purchase, or modernization of their homes and (2) of protecting the savings of investors (up to \$5,000 each) in thrift and home-financing institutions which are members of the Federal Savings and Loan Insurance Corporation. A special contribution of the Federal Home Loan Bank System to the war effort has come through liberalization of regulations of the Federal Home Loan Bank System to enable insured member institutions to increase their activity in defense areas by selling mortgages and using the proceeds during the emergency to finance housing for war workers. Particularly important in the war housing program now and doubtless for the rest of the war period is the contribution of the Home Owners' Loan Corporation, whose personnel and accumulated experience in the remodeling and conversion of properties are now being em-

ployed by the Homes Use Service, which is stimulating fuller use of existing structures for residential purposes.

### FEDERAL HOUSING ADMINISTRATION

The Federal Housing Administration continues to perform its primary function of insuring mortgages on homes which meet its location requirements and standards of construction. Its facilities for insuring loans for home modernization and repair and for new small home construction are still available as are also its facilities for paying losses on mortgages on one- to four-family homes and on rental properties in large scale projects. Needless to say, activity in these categories has been greatly curtailed as housing has swung over almost exclusively to the provision of accommodations for war workers. Therefore, its most important insuring activities at the present time are confined to Title VI, an amendment to the National Housing Act enacted on March 28, 1941 to make the insurance feature available for war housing. Through that and a subsequent amendment the terms of obtaining FHA insured loans have been liberalized and their availability extended to specific war production areas. The authorization under this Title has now been increased to \$800,000,000 and is available to cover losses on mortgages on one- to four-family homes for rent or for sale as well as mortgages up to \$5,000,000 on large scale rental projects. In both cases, war workers are given occupancy priority in such structures.

The other major function of the FHA in the war housing effort is quite separate from its insuring activities. As agent for the War Production Board, the field offices of FHA receive the priority applications of private housing contractors for building materials, process them on the spot, and transmit them to the War Production Board for approval or rejection. Regulations now require adjustment of sale prices and rents to the war housing market, and ceil-

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ings on sale prices and rents are among the standards of eligibility for priorities.

### FEDERAL PUBLIC HOUSING AUTHORITY

The Federal Public Housing Authority, the third of the major constituents of the National Housing Agency, has the responsibility for providing that part of war housing needs (outside of Army and Navy reservations) which must be done with government funds because of inabilities of one sort or another on the part of private enterprise to do the whole job. Its former concerns with slum clearance, low income groups, and the like are temporarily put aside, even to the extent that some of its low rental facilities have been converted to war housing. Now FPHA is concerned only with providing shelter for war workers at a price they can pay. Its activities embrace not only such permanent housing as private enterprise, because of the risks involved, can not provide but also the temporary shelter which is necessary in some areas. The choice between permanent and non-permanent construction in a given locality depends upon the likelihood of need for additional homes after the war. This decision, in turn, assumes the availability of priorities to implement permanent construction, which naturally requires a somewhat larger quantity of critical materials than does temporary shelter.

The funds to finance this public war housing program come from a variety of sources, principally from appropriations under the Lanham Act (Public 849) and its various amendments, through amendments to the United States Housing Act of 1937, and from appropriations under several acts providing for temporary shelter. The first is the most important, both in terms of the amount of funds provided and because it sets forth the principal regulatory provisions (concerning costs, rents, etc.) which govern public war housing. The war housing built under this act falls into two major categories, that

built prior to the amendments of Jan. 21, 1942, which may be made available for occupancy by low income families after the war, and that built after Jan. 21, 1942, which is to be disposed of as expeditiously as possible after the war unless the Congress issues a specific mandate to the contrary.

War housing is also being provided as a result of the adaptation of the United States Housing Act to the emergency. The Federal Public Housing Authority, under whose auspices all public war housing in urban areas is now built, is not required during the emergency to eliminate the equivalent number of slum accommodations nor to accept only low income families as tenants in its war shelter projects. Furthermore, projects under way at the time of these amendments could be converted into war housing projects. Housing supplied in accordance with the provisions of the amended United States Housing Act may be occupied only by war workers and at rentals within their financial reach. After the war, this housing may be made available to low income groups.

### PROGRAMMING WAR HOUSING

Vast production schemes are only dreams and great armament plants are only empty sheds without an adequate and efficient labor force to man them, and that labor force is not to be had or to be retained unless those workers are adequately housed. Housing for war workers, therefore, must be provided but it, like all other "musts" in the total war program, has to be provided within the framework of a war economy. The war housing program must take cognizance of: (1) the scarcity of material resources; (2) the burdens imposed on our transportation system by the war effort; (3) the manpower situation which is in constant flux as a result of the demands of the military as well as the production machine; and (4) the fiscal resources made available by the Congress for the Government's part in the provision of housing for war workers. Thus, the war



## XV. SOCIAL PROBLEMS AND CONDITIONS

housing program of the National Housing Agency is closely bound up and interrelated with the programs of other Federal agencies, notably the War Production Board, Office of Defense Transportation, War Manpower Commission, and Congress.

In the face of these limitations, the war housing program has had to be whittled down to its bare essentials to make it fit the conditions of a war economy. War housing is now defined as the provision of the minimum of housing facilities required to meet the needs of the indispensable minimum number of in-migrant war workers, that is, the war workers who must be brought into production centers to man the war production machines.

How these housing needs are being met through the NHA program will be described as it evolves through: (1) the designation of so-called "critical housing areas"; (2) the estimation of the necessary number of in-migrant war workers requiring housing accommodations; (3) the stimulation of maximum use of existing structures; and (4) the programming of the minimum amount of new construction.

Before taking up these various steps, it is necessary to emphasize that the resulting housing program must be highly flexible. The elements in the scene are constantly shifting. Developments on distant battle fronts cause changes in production patterns; new materials problems cause shifts in scheduling output; existing plants expand or contract production accordingly; new plants are projected. All of these call for adjustments in the war housing program and will continue to do so.

### CRITICAL HOUSING AREAS

Obviously the war production effort has not hit all parts of the country or all localities with equal force. Consequently the housing problem has shown varying degrees of intensity in different places. The urgency of the war housing need has forced concentration of attention on housing activity in those places where

the President has found so acute a shortage existing or impending that it threatens to impede war activity. The result has been the designation of areas—sometimes a specific city or town, but more frequently a group of cities or towns together with their surrounding territory—for which war housing programs must be prepared. In short, the war housing program of the NHA is in reality a series of programs for these critical localities or problem areas. By use of the "locality" device the necessary ingredients of the program can better be coordinated to achieve the most economical war housing program. Thus, in one area, primary reliance may be placed upon use of local labor supply, with a consequent reduction in additional housing facilities required. In another area, the same end may be achieved by readjustment of transportation facilities. In still another area, the only possible answer to the problem may be the construction of new housing facilities. Whatever the method employed, the various factors are coordinated into a plan which will cause the minimum drain upon all scarce resources.

### MEASUREMENT OF THE WAR HOUSING NEED

The next step is the determination of the number of war workers who are likely to come into a production area within a given period of time. The problem is to estimate, with the greatest possible accuracy, what this influx will be in terms of number of workers and their family composition. First of all, it is necessary to analyze the existing local labor supply. To what extent can local labor meet the needs of the production plants in the area, either by transfer from non-war industries (with the possible necessity of re-training), or by the increased employment of women workers and minority groups, or by the extension of the commuting area? The potentialities of this local labor supply must be fully explored and fully utilized first because these workers presumably already have housing. After the maximum contri-

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bution from this source has been calculated, it is possible to determine the approximate number of workers who must be brought in from beyond the locality and therefore the approximate number for whom housing accommodations must be provided. Then knowledge as to the number of in-migrant war workers must be supplemented by knowledge about their family composition. Are they likely to come as single workers, as members of two-person families, or as members of families having three persons or more? In other words, are single rooms or family units required and in what proportions?

The best estimates of the War Manpower Commission based upon data from the Bureau of Employment Security and other sources show that the indispensable number of war workers who must enter industrial centers and for whom accommodations must be provided by June, 1943 totals 1,600,000. Of this total, it is estimated for the United States as a whole that one-third will come to war production centers as individuals—single persons or married persons who have left their families behind; one-third will be members of two-person families; and one-third will be members of families having three or more persons.

Individual in-migrants will be taken care of in existing housing, in so far as possible. In addition, some individuals can be accommodated in the extra space available in whatever new family units may be provided. Any residue must be provided for in new government-built dormitories, which are expected to provide all essential facilities at an estimated cost of \$1,000 per unit. These dormitory units may be built for either single or double occupancy.

Two-person families will be housed in existing rooms and light house-keeping quarters up to capacity. Any families of this group with incomes sufficiently high to meet rents in new private housing may be provided such accommodations, if private enterprise can safely finance them and

if the housing appears likely to be needed after the war. In general, the remainder of two-person families will be quartered in new government-built dormitory-apartments. However, if the local situation seems to make it feasible, some two-person family workers may be accommodated in new government-built family units.

Families of more than two persons will be programmed for existing housing up to its capacity. Of the balance, those with sufficient incomes will be scheduled for new private housing. The remainder will be provided with new government-built family accommodations.

In terms of housing facilities, this total of 1,600,000 indispensable in-migrant war workers will require 1,320,000 accommodations of various sorts. Of these, it is calculated that 650,000 accommodations can be provided in existing structures of one type or another, leaving a balance of 670,000 to be provided by new construction.

### MAXIMUM USE OF EXISTING HOUSING

The importance to the war housing program of maximum utilization of existing structures is clearly evident from the foregoing figures which show that almost one-half (650,000 out of 1,320,000 needed accommodations) are counted upon to be provided in existing residential and other structures. In order to promote and facilitate maximum utilization of available structures for residential purposes, the Homes Use Service has been established in the Office of the Administrator. This Service has two major branches. One is the Division of Homes Registration and Procurement whose primary function is the operation of Homes Registration Offices or War Housing Centers in war production areas. These centers are clearing houses where people who have extra living space may list it for occupancy and where war workers may apply for use of that space. Through the facilities of such centers,

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the National Housing Agency is intensifying its drive to induce homeowners to accept "war guests" for the duration. Obviously the additional living quarters made available through these channels will be largely accommodations for single persons and for some two-person families.

The other branch of the Homes Use Service, known as the Conversion Division, is the one which is playing an increasingly important role in the war housing program and will continue to do so as the war goes on. As productive efforts increase, the demand upon critical materials will correspondingly increase and hence the greater need for the fullest possible utilization of existing structures to supply the demands for war-worker housing. Therefore, the National Housing Agency has appealed to owners to lease their properties to the Government for the duration of the war, if they are suitable for remodelling into additional living units. Under this conversion program the Government will lease private homes which meet certain basic qualifications: (1) that they can be converted into additional accommodations speedily and with a minimum use of critical materials; and (2) that they are located in districts within reasonable transportation distance of war plants and where conversion is permissible under zoning laws.

In these transactions the National Housing Agency will advance the cost of the improvements, which will be repaid from rents received from the new occupants. It will remodel the structures to make them habitable for the largest practical number of war workers, submitting plans for the remodelling to the owner for his approval before the lease is signed. It will assume responsibility for carrying charges, meeting them out of the rents paid by the war-worker occupants. During the leasehold by the Government the owner will receive a fair rental from the NHA, this rent also being drawn from the revenues of the property. Within a reasonable period after the war the house will be returned to the owner in its remod-

elled state. Meanwhile the owner will be permitted to live in one unit of the structure if he so desires, provided he pays a fair rental.

The Homes Use Service will concentrate its conversion efforts on houses, combination business-and-residential properties, and small apartment houses and flats. Larger structures, mostly of the non-residential type, which are suitable for reconditioning and conversion, will be leased or purchased through the Federal Public Housing Authority.

The Conversion Division of the Homes Use Service is putting this program into operation in some 75 cities throughout the United States. It is the unit which negotiates the leases, supervises the alterations, rents the space, and manages the properties. In performing these functions the Conversion Division is utilizing the trained personnel and accumulated experience of the Home Owners' Loan Corporation.

### MINIMUM NEW CONSTRUCTION

After the number of in-migrant war workers has been reduced to the lowest possible figure by full employment of local labor and after maximum use has been made of existing housing facilities, planning for the necessary minimum of new housing construction rests upon three main considerations: (1) the proportion of new buildings to be done by private and by public funds; (2) a corollary of that consideration, namely, the types of accommodations to be built; and (3) the necessity to conserve critical materials—the basic consideration of all.

One of the fundamental policies of the National Housing Agency is to give to the private building industry the opportunity to do as much of the war housing job as it can. Private enterprise, however, will confine its activities almost exclusively to the provision of permanent housing of the family-unit type. For obvious financial reasons it can not be expected to build anything but permanent structures, that is, structures whose life expectancy exceeds the



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war period. Temporary housing offers private capital no opportunity to get its money out, much less to earn a fair return on its investment; nor can private builders, in most cases, meet the cost requirements necessary to achieve rentals within the financial reach of the lowest income war workers. Barring these limitations, private enterprise is encouraged to make a major contribution to the war housing program. Of the 670,000 accommodations which probably will have to be provided through new building, 270,000 are programmed for construction by private enterprise. Furthermore, the NHA, through the Federal Housing Administration, is helping to get necessary priorities for materials for that private construction which meets the tests for war housing. Preference rating certificates are provided to private builders by the War Production Board, which approves or rejects applications filed at the field offices of the FHA.

For the balance of the necessary new construction it is necessary to resort to public financing and public building. The 400,000 accommodations which it is estimated that the Government will have to build and finance will fall largely into three categories—dormitories, dormitory-apartments, and temporary shelter—with a minimum of permanent family units in areas which will be likely to need them after the war. To house the single and two-person-family war workers the present program calls for the construction of a total of some 195,000 accommodations of the dormitory and dormitory-apartment types. The balance of the accommodations (205,000) to be built with public funds are programmed as family units, and the majority of them will be of temporary construction. Permanent, publicly built and financed family accommodations are being constructed only in areas which evidence a probable post-war need for them or in which the only available sites are ones where temporary structures would create fire or health hazards. If the use of such housing after the war is uncertain, high-sal-

vage-value units will be programmed. The same general standards of space, sanitation, and community facilities will apply to both permanent and temporary government war housing, even though the type of design, construction, and equipment may differ.

War apartments, or dormitory-apartments, and dormitories for individual workers or two-person families will be of temporary construction. For married war workers who leave their families at home and are quartered in these dormitories, it may be possible to provide family housing after the present pressure on construction materials and labor has subsided. So-called "demountable" houses provide a high degree of flexibility for changing programs. As the need in one locality decreases, demountables can be removed and erected as part of another program. Stop-gap housing, such as trailers, will be provided only where absolutely essential to furnish some type of shelter until standard housing can be built.

### SAVINGS IN USE OF CRITICAL MATERIALS

The designs in all categories of war housing will be adjusted to meet shortages of materials, labor, transportation, and utilities. Use of critical materials will be held at a minimum and substitutes are being developed and used wherever possible.

In diligently pursuing the policy of conserving materials in home building, the National Housing Agency has developed a type of permanent family dwelling which requires only 28 per cent as much of these materials as the 9,712 pounds that went into the average pre-war permanent family unit. The temporary family unit of war housing needs only 21 per cent as much critical materials as did the pre-war family unit, and the dormitories and dormitory-apartments require only 4.4 per cent and 13 per cent, respectively. The average of 2.11 tons of critical materials per war worker housed under the first government program has been



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cut to 0.46 ton per worker housed under the proposed program, a saving of 78 per cent. In fact, it is estimated that the proposed war housing program for the fiscal year 1943 will require only about one-half of one per cent of the annual supply, exclusive of stockpiles, of the various types of critical materials.

### THE LONGER VIEW

Housing activity in 1942 had one goal and one goal only—the provision of the minimum amount of housing

required to implement the war effort. Every possible precaution is being taken to reduce waste and otherwise ease the transition from a wartime to a peacetime economy. As progress is made toward completion of the bulk of war housing requirements, attention will be turned to study of the disposition of this housing and to planning how to translate the technological gains and gains from cooperative effort, as well as other wartime lessons, into a constructive program for vastly better urban housing in the post-war period.

## PERIODICAL PUBLICATIONS

### *American Childhood*

74 Park Ave., Springfield, Mass.

### *American Journal of Public Health and the Nation's Health*

1790 Broadway, New York City.

### *American Journal of Psychiatry*

9 Rockefeller Plaza, New York City.

### *Annals, The*

American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

### *Boy's Life*

Boy Scouts of America, 2 Park Ave., New York City.

### *Journal of Home Economics*

Mills Bldg., Washington, D. C.

### *Journal of Social Hygiene*

1790 Broadway, New York City.

### *Social Research*

66 West 12th Street, New York City.

### *Social Studies*

1021 Filbert Street, Philadelphia.

### *Social Work Today*

112 East 19th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### JUSTICE AND MAINTENANCE OF ORDER

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut Street, Philadelphia.

AMERICAN BAR ASSN., 1140 N. Dearborn St., Chicago, Ill.

AMERICAN CIVIL LIBERTIES UNION, 170 Fifth Ave., New York City.

AMERICAN COUNCIL OF LEARNED SOCIETIES, 907 Fifteenth St., N.W., Washington, D. C.

AMERICAN INSTITUTE OF CRIMINAL LAW AND CRIMINOLOGY, 357 E. Chicago Ave., Chicago, Ill.

AMERICAN LAW INSTITUTE, 3400 Chestnut St., Philadelphia, Pa.

AMERICAN PRISON ASSN. OF N. Y., 135 E. 15th St., New York City.

NATIONAL COMMITTEE ON PRISONS AND PRISON LABOR, 1860 Broadway, New York City.

NATIONAL CRIME COMMISSION, 73 Tremont St., Boston, Mass.

NATIONAL POLICE CONFERENCE, 240 Centre St., New York City.

NATIONAL PROBATION ASSN., INC., 1790 Broadway, New York City.

NATIONAL SOCIETY OF PENAL INFOR-

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SOCIETY FOR THE PREVENTION OF CRIME, 18 East 48th St., New York City.

WOMEN'S PRISON ASSN., 110 Second Ave., New York City.

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AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN POLITICAL SCIENCE ASSOCIATION, 105 Harris Hall, Northwestern University, Evanston, Ill.

AMERICAN RED CROSS, 17th between D and E Sts., N.W., Washington, D. C.

AMERICAN SEAMEN'S FRIEND SOCIETY, THE, 175 Fifth Ave., New York City.

AMERICAN SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS, 50 Madison Ave., New York City.

BOY'S CLUBS OF AMERICA, INC., 381 Fourth Ave., New York City.

BOY SCOUTS OF AMERICA, 2 Park Ave., New York City.

CAMP FIRE CLUB OF AMERICA, 50 Union Square, New York City.

CHILDREN'S AID SOCIETY, 105 E. 22nd St., New York City.

FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA—Commission on the Church and Social Service, 297 Fourth Ave., New York City.

GIRLS' FRIENDLY SOCIETY OF THE U. S. A., 386 Fourth Ave., New York City.

GIRLS' SERVICE LEAGUE OF AMERICA, 138 E. 19th St., New York City.

HUMANE SOCIETY OF NEW YORK, 313 E. 58th St., New York City.

NATIONAL CATHOLIC WELFARE CONFERENCE, 1312 Massachusetts Ave., N.W., Washington, D. C.

NATIONAL SOCIAL WORK COUNCIL, 1790 Broadway, New York City.

YOUNG MEN'S CHRISTIAN ASSN., International Committee, 215 W. 23rd St., New York City.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION, 600 Lexington Ave., New York City.

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BENEVOLENT AND PROTECTIVE ORDER OF ELKS OF THE U. S. A., 2750 Lake View Ave., Chicago, Ill.

INTERNATIONAL ASSN. OF LIONS CLUBS, 332 S. Michigan Ave., Chicago, Ill.

KIWANIS INTERNATIONAL, 520 N. Michigan Ave., Chicago, Ill.

KNIGHTS OF COLUMBUS, P.O. Drawer 1670, New Haven, Conn.

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KNIGHTS OF PYTHIAS, 1054 Midland Bank Bldg., Minneapolis, Minn.

LOYAL ORDER OF MOOSE, Mooseheart, Ill. (Supreme Lodge of the World).

MODERN WOODMEN OF AMERICA, 1504 Third Ave., Rock Island, Ill.

ROTARY INTERNATIONAL, 35 E. Wacker Drive, Chicago, Ill.

SOVEREIGN GRAND LODGE OF THE INDEPENDENT ORDER OF ODD FELLOWS, 16 W. Chase St., Baltimore, Md.

SUPREME COUNCIL OF THE ROYAL ARCANUM, 407 Shawmut Ave., Boston, Mass.

SUPREME COUNCIL, 33° ANCIENT & ACCEPTED SCOTTISH RITE.—Northern Jurisdiction, 1117 Statler Bldg., Boston, Mass.—Southern Jurisdiction, 1733 16th St., N.W., Washington, D. C.

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COMMUNITY SERVICE SOCIETY OF NEW YORK, 105 E. 22nd St., New York City.

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## XV. SOCIAL PROBLEMS AND CONDITIONS

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 CHILDREN'S AID SOCIETY, 105 E. 22nd St., New York City.  
 COMMITTEE ON WORLD FRIENDSHIP AMONG CHILDREN, 297 Fourth Ave., New York City.  
 HEBREW SHELTERING AND IMMIGRANT AID SOCIETY, 425 Lafayette St., New York City.  
 NATIONAL CHILD LABOR COMMITTEE, 419 Fourth Ave., New York City.  
 NATIONAL CHILD WELFARE ASSN., 70 Fifth Ave., New York City.

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 AMERICAN SOCIAL HYGIENE ASSN., 1790 Broadway, New York City.  
 ANTI-PROFANITY LEAGUE, Ware, Mass.  
 ASSOCIATION FOR RESEARCH IN HUMAN HEREDITY, Cold Springs, L. I., N. Y.  
 BETTER FILMS, NATIONAL COUNCIL, 70 Fifth Ave., New York City.  
 BIRTH CONTROL FEDERATION OF AMERICA, 501 Madison Ave., New York City.  
 COMMUNITY SERVICE SOCIETY OF NEW YORK, 105 E. 22nd St., New York City.  
 NATIONAL COMMITTEE FOR MENTAL HYGIENE, 1790 Broadway, New York City.  
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 GUGGENHEIM FOUNDATION, 551 Fifth Ave., New York City.  
 HALL OF FAME FOR GREAT AMERICANS, New York University, University Heights, New York City.  
 MORO EDUCATIONAL FOUNDATION, 475 Fifth Ave., New York City.  
 ROCKEFELLER FOUNDATION, 49 W. 49th St., New York City.  
 ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, York Ave. and 66th St., New York City.  
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 AMERICAN NURSES ASSN., INC., 1790 Broadway, New York City.  
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 GENERAL FEDERATION OF WOMEN'S CLUBS, 1734 N. St., N.W., Washington, D. C.

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## DIVISION XVI LABOR AND LABOR LEGISLATION

### LABOR CONDITIONS AND LEGISLATION

BY WITT BOWDEN

BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR

#### LABOR IN THE FIRST YEAR OF WAR

Vigorous backing of the national war policy marked the 1942 activities and the annual conventions of all important unions. Labor's interests underwent a shift of emphasis from normal collective bargaining processes to participation with management in war production under public direction. Union representation for this purpose ranged from the Combined Labor War Board for consulting and advising with the President to local labor-management committees in factories. The major issue from the point of view of the unions was the degree of responsibility of their representatives in public agencies and in war industries.

Labor organizations recognized the necessity for adapting union procedures and labor law and policy to war conditions. They agreed to the extension of public authority in determining wages, checking inflation, mobilizing industry and manpower for war production, and controlling consumption as well as production. Significant differences of opinion arose over the extent and timing of conversion to a war economy, the methods to be used, and the share of labor representatives in formulating and administering public policies and in directing the mobilization of industry.

#### COLLECTIVE BARGAINING IN WARTIME

Before the war, collective bargaining had come to be recognized as the normal and basic procedure for handling industrial relations. Collec-

tive bargaining normally consists not merely of the process of making collective agreements between employers and employees but also of the day-by-day work of interpreting agreements, handling grievances, and applying them to the complex and diversified conditions of production. An incident of normal collective bargaining is the right to exert pressure by a stoppage of work. One effect of the national emergency even before the outbreak of war was a restriction of the right of resort to a work stoppage, as in the bituminous-coal industry. Conferences between the parties to the 1941 controversy led to an agreement to yield the right to strike and to accept the award of a special Board of Arbitration representing the two parties and the public. The award of the Board stated that the arbitration thus became an incident of collective bargaining.

The beginning of a state of war on Dec. 7, 1941 gave additional urgency to the problem of preventing work stoppages and brought about a general agreement to prevent interruptions. Upon the invitation of the President on Dec. 11 for a joint conference, the Business Advisory Council chose 12 representatives and the AFL and the CIO each chose six representatives. The ensuing conference agreed, on Dec. 23, to bar all strikes and lock-outs and to settle all labor disputes by peaceful means, if necessary through a war labor board to be created.

Thus, by the end of 1941, agreement had been reached between employers, labor organizations, and the Government for a significant exten-

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sion of normal collective bargaining procedures. This extension was to be effected by labor and employer representation on public agencies and by mutual agreement to accept the decisions of such agencies. Joint representation was extended to include numerous agencies affecting the interests and activities of wage earners, notably the Combined Labor War Board and the National War Labor Board.

### PROBLEMS OF LABOR REPRESENTATION

Continued division in the ranks of labor made necessary a somewhat complex system of labor representation on public agencies and labor-management groups. Several of the railroad brotherhoods, the United Wine Workers of America, unions in the public utilities field, some of the craft groups—notably the International Typographical Union, and some of the unions of public employees were not affiliated with either the AFL or the CIO. The combined membership of the unions affiliated with the AFL and the CIO totalled, however, more than 10,000,000 workers, and the two groups together could, therefore, claim to represent a large majority of organized workers.

Another problem of labor representation was disagreement regarding the area of interest and legitimate activity of representatives of labor. Management opposed labor representation in various fields of decision and responsibility. The representation of both labor and management on public agencies raised questions of the boundary between responsibility and advisory functions.

The AFL and the CIO failed to achieve formal unity, but progress was made in the direction of collaboration without organic unity. Joint representation on public agencies promoted unity of view and of action. Certain proposed measures, such as the so-called labor draft, gave rise to common opposition. A peace committee, meeting in Washington, issued a statement on Dec. 2 agreeing to the establishment of a joint com-

mittee to hear and decide jurisdictional disputes. It was agreed that if the joint committee failed to adjust a jurisdictional dispute it should select a disinterested arbitrator whose decision would be binding on both parties, and in the event that the committee failed to agree on the choice of an arbitrator, the President of the United States would be requested to name an arbitrator.

### GROWTH OF LABOR ORGANIZATIONS

The number of workers enrolled in labor organizations by the end of 1942 totalled not far from 12,000,000. Membership increased mainly in the unions most intimately connected with war industries. Thus, the International Association of Machinists increased its members from 221,800 in 1941 to 328,500 in 1942. The paid-up membership of all unions affiliated with the American Federation of Labor was reported, at the 1942 convention, as totalling 5,483,000, the increase over 1941 being 914,000. Reports to the 1942 CIO convention indicated that the growth in membership of the constituent unions more than offset the withdrawal of the United Mine Workers.

Many of the unions not affiliated with the AFL or the CIO also experienced some growth. Some of these unions moved in the direction of federation. The Confederated Unions of America and the United Utilities Union of America were both formed in October. The membership of the unions affiliated with these two groups totalled several hundred thousand workers.

### LABOR'S INTEREST IN MANAGEMENT

In January 1942, the President suggested to the heads of the American Federation of Labor and the Congress of Industrial Organizations that a Combined Labor War Board be formed for securing the most effective participation by labor in the national effort. The resulting committee consisted of three representatives of the AFL and three of the CIO. The first meeting was held at the White House

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on Feb. 6. In the view of labor leaders, the formation and activities of the committee constituted one of the greatest steps forward in the recognition of labor's vital part in the war. An incidental but important result of the formation of the committee was the increased collaboration of the AFL and the CIO.

Labor unions had a growing interest in problems of management and a willingness to assume joint responsibilities, especially in the field of war production. This trend was reinforced and given factual basis by the expanding work of the research branches of labor organizations. A statement of labor policy for government-owned plants under private operation, issued on June 22, recognized the "new and unique tripartite relationship among government, labor, and management." A somewhat similar relationship between labor and government in the field of public enterprises had previously been established, notably in the general agreement signed on August 6, 1940, by the Tennessee Valley Authority and the Tennessee Valley Trades and Labor Council.

The AFL and the CIO submitted in August 1942 a joint statement to the War Production Board requesting a more direct and effective representation of labor, and a labor-management committee was formed for directing the War Production Drive. The number of labor-management committees connected with this program on Dec. 1 totalled 1,817, widely distributed in war industries. In November, two labor representatives were appointed as assistants to the directors of two of the major industry divisions of the WPB (steel, and paper and pulp).

The War Manpower Commission, which was created on April 18, set up on May 25 a labor-management policy committee composed of an equal number of representatives of union and management. Similar committees were established to work with the 12 regional directors of the WMC. Committees for industrial areas were also formed. The major

policies adopted by the WMC were in accord with the recommendations of the joint policy committee.

A labor policy committee of the OPA was formed in June 1942, with nine representatives of the AFL, the CIO, and the railroad unions. Three labor liaison officers were later added to the staff of the Labor Office of the OPA. A major interest of labor organizations in their effort to obtain representation in the OPA was the choice of labor representatives to serve on local price and rationing boards. This action required also the cooperation of the Office of Civilian Defense. A program was worked out with the two agencies for extending labor representation in the local defense councils and price and rationing boards and in the regional and state offices.

### ORGANIZATION OF THE NATIONAL WAR LABOR BOARD

The National War Labor Board was created by an executive order of the President on Jan. 12, 1942. Cases pending before the National Defense Mediation Board, which was dissolved by the same executive order, were transferred to the new agency. The membership of the NWLB was composed of 12 special commissioners appointed by the President, with four each for the public, the employees, and the employers. The labor representation was shared by the AFL and the CIO. Four alternate labor members and four alternate employer members were also appointed, and later 24 associate members equally representative of labor, employers, and the public were appointed to serve as conciliators or mediators on behalf of the Board.

### THE UNION SECURITY ISSUE

The NWLB, during the early months of 1942, was called upon to handle the highly controversial problem of union security. Unions in their collective agreements had worked out a number of relations to non-union workers. The closed shop, which was provided for in a significant number of agreements, requires the employer to hire none but union

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members. The union shop does not require the hiring of union members but does require a worker, when hired, to join the union if not already a member. A preferential shop calls for giving preference to union members in hiring or in retention of employees during lay-offs.

The NWLB held that, when the unions agreed not to exercise their right to strike during the war, they had a right to protection from a threat of weakened status or even of annihilation from assaults by a relatively few employers who objected to collective bargaining in principle. It was also held that the unions should be protected at a time when they were not only giving up their normal peacetime defenses but also calling on their members for sacrifices in the interest of economic stabilization. A primary purpose of the Board, however, in its development of a policy of maintaining the security of the unions, was the maintenance of productivity and efficiency in war production.

### MAINTENANCE OF MEMBERSHIP CLAUSE

The formula for maintaining union security as a compensation for the surrender of the right to strike contained as an essential feature a maintenance of membership clause. The clause did not provide for a closed shop because it did not require a company to hire only union members. It did not require workers already hired to join the union, and therefore did not provide for a union shop. It did not require that preference in hiring be given members of the union, and it therefore did not create a preferential shop. As expressed by the NWLB, the clause "does not require any old employee, any new employee, or any employee whatever to join the union at any time. The maintenance of membership clause requires only that any employee who is a member of good standing, at the time the contract is signed, or who thereafter voluntarily joins the union, shall remain a member in good standing during the term

of the contract. This he is required to do as part of his obligation to keep the provisions of the contract made by the union with the company on his behalf." The formula, as finally worked out and extensively applied by the NWLB, requires employees who wish to withdraw from the union to do so within 15 days.

### ACCEPTANCE OF NWLB'S AUTHORITY BY EMPLOYERS

The members of the Board who represented employers dissented from the majority opinions in the early awards of maintenance of membership clauses. They viewed such clauses as in reality having the effect of compelling "an unwilling employer to force an unwilling employee either to join or to remain a member of the labor union in order to play his part in winning this war." The dissenting views of the employer members threatened, for the time, to disrupt the NWLB. This threat was ended, however, by the ultimate acceptance of the union security principle by employer members. The first case in which this shift occurred was the Ryan Aeronautical Company case, decided in June, in which two of the four employer members voted for a maintenance of membership clause. In some of the later cases the Board voted unanimously for such a clause.

Refusal to accept a maintenance of membership clause had resulted in 1941 in the taking over of the Kearny, N. J. plant of the Federal Shipbuilding and Dry Dock Company, but the plant was returned to the company on Jan. 6, with the understanding that all unsettled disputes "should be settled without interrupting production by recourse to the machinery established by the President." It was not, however, until April that the controversy was finally settled by the company's acceptance of a maintenance of membership clause. The extension of the Board's authority beyond narrowly defined war industries to include retail trade gave rise to a prolonged controversy with Montgomery Ward and Com-



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pany. The Board's order, in which employer representatives concurred, was rejected until the President directly intervened on the basis of his emergency powers.

### **DENIAL OF MAINTENANCE OF MEMBERSHIP CLAUSE TO STRIKERS**

In a decision of Sept. 19, the NWLB refused to grant a maintenance of membership clause to a union representing the employees of the General Chemicals Company's plant in Buffalo, N. Y. because the union had been "guilty of deliberate work stoppage" and the granting of such a clause would "violate the policy of the Board that a union must demonstrate clearly that it is a responsible organization before it is entitled to the protection of the union maintenance clause." It was stated, however, that the union security issue might be reopened by the Board upon petition after six months. In December, the Board for the first time revoked an established maintenance of membership clause because of a strike for which the union was held responsible.

In one instance (the Bayonne, N. J., plant of the General Cable Company), the President directed the Navy Department to take charge after the NWLB had reported that striking employees had rejected appeals from the Government and from union officials to end a wild-cat strike called in protest against the Board's decision denying them a general increase in wages. The strikers yielded, and the plant was returned to private management.

### **EARLY WAGE POLICIES OF THE NWLB**

The wage policies of the NWLB fall within three periods: from the organization of the Board to the President's message to Congress on April 27, calling for more rigorous control of inflation; from April 27 to the Anti-inflation Act and the President's stabilization order of Oct. 3; and the period following the enactment of the anti-inflation bill. The

decisions of the NWLB before April 27 on wages were influenced by several considerations. These included the rise in cost of living and the conditions and rates of pay in comparable employments in the economic area surrounding the workers involved in a particular case. Regional differentials were considered, and the Board favored the gradual reduction of such differentials. The Board accepted premium payments for overtime but did not favor such payments for Saturday, Sunday, and holiday work as such. Inequalities, inequities, and substandard wages were opposed, but action was limited mainly to cases which threatened to interfere with war production. The bearing of price regulations on wages was recognized as when provision was made for the reopening of wage negotiations if the Office of Price Administration granted permission to raise prices.

### **THE PRESIDENT'S ANTI-INFLATION PROGRAM**

In a message to Congress and in a radio broadcast, the President, on April 27 and 28, set forth a 7-point program for stabilizing the cost of living and fortifying the national economic structure. This program called for (1) heavy taxation to keep personal and group profits at a reasonable rate; (2) the fixing of ceilings on prices and rents; (3) the stabilization of wages and salaries, with due consideration to inequalities and the elimination of substandards of living; (4) the stabilization of farm prices; (5) the extended use of income for the purchase of war bonds; (6) the rationing of essential scarce commodities for the purpose of a fair distribution among consumers; and (7) the discouraging of credit and installment buying together with the encouragement of savings and debt liquidation.

The President asked Congress for additional legislation in the fields of taxes and price control. As for stabilization of wages, it was held that the stabilizing of the cost of living would make it possible for the NWLB and

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other agencies to keep wages in general at existing scales.

### WAGE POLICY UNDER THE ANTI-INFLATION PROGRAM

The wage policy of the NWLB after April 27 was based on the assumption that the rise in cost of living would be halted. The new wage adjustment policy as affected by the cost of living was, therefore, based on changes in cost of living before May 1942. In accord with the President's statement in his message to Congress, the Board continued to recognize as a valid basis for wage adjustments the existence of inequalities and substandard conditions as hindrances to war production.

It was pointed out by a member of the Board that the problems involved in demands for wages have been mainly economic rather than legal, and that complex considerations and conflicting interests prevented the adoption of academic theories and made necessary a high degree of flexibility.

### THE "LITTLE STEEL" WAGE ADJUSTMENT FORMULA

The NWLB held consistently to the necessity for maintaining flexibility in its wage policy, but the piling up of cases made necessary the adoption of a principle for limiting and defining the areas of permissible wage adjustment. The Office of Price Administration insisted that wage increases be restricted for combating inflation and simplifying the problems of price control.

The result of these influences was the adoption by the NWLB of a general wage adjustment formula called, from the case in which it was first applied, the "Little Steel" formula. Up to January 1941, wages and cost of living had been comparatively stable, but cost of living rose by May 1942 to 15 per cent above January 1941. The Board adopted a general policy of approving the restoration of the wage status of January 1941 by permitting group increases in rates of pay equal to the 15 per cent rise in cost of living. Claims for adjust-

ments would still be considered on the basis of group inequalities or substandard conditions, and special consideration was given to about 20 pending disputes which had been certified to the Board before the President's stabilization program of April 27.

### PROBLEMS OF APPLYING THE "LITTLE STEEL" FORMULA

The decision in the Little Steel case made use of an estimate of the change in the general level of wage rates in the Little Steel companies. Available information regarding wage changes related in most industries not to basic rate changes but rather to changes in average hourly earnings, which, during the period from January 1941 to May 1942, had been affected by various factors. The main additional factor during this period, however, was the increase in the amount of overtime at premium rates. The Board, therefore, usually viewed the change in straight-time hourly earnings as approximating the change in rates.

The "Little Steel" case involved directly only a limited number of the smaller steel companies, and this as well as other decisions applied specifically to the parties directly involved. The Board was, therefore, confronted by the problem of keeping its work within bounds by making a particular decision applicable in effect to as broad an area or as large a group of workers as possible.

The Board had generally recognized and even encouraged the adjustment of wages by independent collective bargaining. After the adoption of the "Little Steel" formula, however, the Board held that any voluntary agreement should be consistent with that formula. Thus, a Board member stated on Sept. 17 that "it should be recognized by all concerned that the wage formula adopted by the Board will not and can not result in wage stabilization if it is limited in its application to wage disputes which come before the War Labor Board for final determination."

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### NEW STABILIZATION PROGRAM

Leaders of organized labor supported the whole of the President's anti-inflation program of April 27 but deplored what they called the failure to carry out parts of the program not involving wage stabilization. The President, on Sept. 7, in a message to Congress, called attention to his 7-point program of April 27 and repeated his request for Congressional action to revise the tax structure and to authorize the fixing of price ceilings on farm products at parity levels. A radio address repeated the main points of the message to Congress.

Action by Congress took the form of an anti-inflation bill signed by the President on Oct. 2. This measure provided for the fixing of farm prices substantially in accord with the President's recommendation. It also contained important wage and salary provisions designed to check increases without prohibiting adjustments.

Under the authority of the act of Oct. 2, the President, on Oct. 3, issued an executive order "for the stabilizing of the national economy." This order created the Office of Economic Stabilization with a director who was given authority to formulate and develop a comprehensive national economic policy relating to the control not only of wages and salaries but also of civilian purchasing power, prices, rents, profits, rationing, and subsidies.

The provisions of the order relating to wages and salaries called for stabilization at substantially the levels of Sept. 15. Flexibility, however, was permitted in so far as increases might be necessary to correct maladjustments or inequalities, to eliminate substandards of living, to correct gross inequities, or to aid in the effective prosecution of the war. Safeguards were included to prevent decreases in wage rates and salaries with the exception of salaries exceeding \$25,000 per year.

### EXTENSION OF JURISDICTION OF THE NWLB

The NWLB was charged with carrying out the wage stabilization

program. All voluntary wage adjustments, including proposed decreases as well as increases, whether by collective bargaining, conciliation, arbitration, or other methods, required the Board's approval. The jurisdiction of the Board was extended to all industries and all employees, but it was authorized to avail itself of the services of other agencies.

The jurisdiction of the NWLB over salaries was limited to salaries up to \$5,000 a year, except for those of supervisory or professional employees who are represented by recognized unions. The adjustment of other salaries was subject to the Commissioner of Internal Revenue. For administrative purposes, the term wages was defined as including all forms of compensation computed on an hourly, daily, piece work, or other comparable basis, and the term salaries was defined as including compensation computed on a weekly, monthly, annual, or other comparable basis.

### ADMINISTRATION OF THE WAGE STABILIZATION PROGRAM

The NWLB ordered that adjustments in wage schedules affecting employers of more than eight persons could not be made after Oct. 3, or in salaries after Oct. 27, unless approved by the Board. Individual increases without approval were limited to such clearly defined cases as promotions and the operation of an established plan of increases based on length of service.

The Board required a vast amount of wage data relating to industries, plants, areas, and occupational groups. This information was obtained largely from the Bureau of Labor Statistics of the Department of Labor, which was able, by an adaptation of its facilities, to collect, compile, and analyze the data with a minimum of delay.

The greatly increased amount of work under the wage stabilization program made necessary a decentralization of the NWLB. The regional offices of the Wage and Hour and Public Contracts Divisions of the De-

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partment of Labor, numbering more than 100, were authorized to give procedural information and assistance. Ten regional offices were established, each headed by a regional director. In each of the ten regional offices there was also set up an advisory board and a panel, both composed of representatives of labor, employers, and the public. Tripartite panels were also planned for the larger cities.

In the handling of disputes, as distinguished from voluntary agreements, the Board arranged to refer to the tripartite panels all disputes which could not be settled by the Conciliation Service of the Department of Labor. Recommendations of the panels, it was planned, would be referred to the regional advisory boards, which were given power to make final decisions subject to certain rights of review and appeal to be defined in the process of working out the plan of decentralization.

In all voluntary wage or salary adjustments affecting employers of not more than 100 workers, the regional directors were authorized to make final rulings. Their authority extended also to all requests for adjustments involving application of the "Little Steel" formula in 29 major war industries. In all voluntary adjustment cases, however, appeals could be made and the Board reserved the right of review.

The NWLB was charged with general responsibility for carrying out the wage stabilization program but was authorized to make use of other agencies. These included the National Mediation Board, which assumed original jurisdiction over a wage dispute in railroad transportation, the Wage Adjustment Board of the building construction industry, the Shipbuilding Stabilization Committee, and several Federal agencies, notably the War and Navy Departments, in relation to employees not paid on a statutory basis. Several tripartite agencies were set up by the NWLB to handle wage adjustments and related problems in such important fields as non-ferrous metals,

trucking, northwest lumber, and the tool and die workers in jobbing and manufacturing plants of the Detroit area. The NWLB and the Commissioner of Internal Revenue recognized the heads of state, county, and municipal governments as having authority to adjust wages and salaries of their employees, but local governments were expected to conform to the national stabilization policy.

The executive order of Oct. 3 provided for the intervention of the Price Administrator in proposed wage changes. If the Administrator held that a proposed increase would require a change in the price ceiling, it could be made only with the approval of both the NWLB and the Director of Economic Stabilization.

### SCOPE OF THE WORK OF THE NWLB

The President's executive order stabilizing the cost of living directed the NWLB to approve increases in wage rates prevailing in September 1942 only for correcting maladjustments or inequalities, eliminating substandards of living, correcting gross inequities, or aiding in the effective prosecution of the war. A maladjustment was viewed as a rise of less than 15 per cent in straight-time hourly earnings above the level of January 1941. Inequalities and gross inequities were viewed as unusual and unreasonable differences in wage rates, but established and stabilized differentials were regarded as normal. Cases involving substandards of living would be considered, it was stated, on their individual merits until experience permitted the adoption of a more general policy. Adjustments for aiding in the effective prosecution of the war were viewed as having particular reference to wage changes affecting the movement of workers from one industry or area to another. The Board would not approve increases for influencing or directing the flow of manpower, but would consider requests from the War Manpower Commission or other agencies for the correcting of inequalities or inequities. An outstand-



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ing instance of differences in wage levels as affecting manpower needs was in the field of farm labor. The Director of Economic Stabilization took action in this case to permit further wage increases.

The work of the NWLB included a variety of non-wage cases. The Board between Jan. 12, the date of its establishment, and Nov. 30, closed 396 wage and non-wage cases, affecting more than 2,000,000 workers. The number of cases received by the Board during this period was 2,119, affecting about 3,800,000 workers. Only 918 cases were disputes. The 1,201 cases of agreements included 377 arbitration, and 824 voluntary wage agreements.

### REDUCTION OF STRIKES

Strike activity declined sharply in December 1941, the man-days idle falling to 476,000 from 1,397,000 in November, and from the peak for the year of 7,113,000 in April. The number of man-days idle was smaller than in December 1941 in every month from January to October 1942, with the exception of June, when the number rose to 550,000. The number of strikes beginning in October was reduced to 235. The number of workers involved in these strikes fell to 60,000, and the number of man-days idle declined to 325,000.

Strike activity affecting war work was defined by an interdepartmental committee composed of representatives of the War, Navy, and Labor Departments, the War Production Board, the Maritime Commission, and the NWLB. The statistics approved by this committee (including all stoppages, whether from strikes or lock-outs) indicate that there was no month, beginning with January, in which the number of man-days lost from war production was larger than one-tenth of 1 per cent of the total man-days worked. In November the proportion fell to three one-hundredths of 1 per cent.

Some strike activity in 1942 thus occurred in spite of the no-strike agreement between unions and employers. It was reported, however, by

the NWLB that no strike called after the no-strike agreement was adopted had been authorized by an international union, and that in every instance the officials of the union had cooperated with the NWLB in putting an end to the strike. No consideration was given to any case on its merits until the men returned to work.

The Board's work in stabilizing industrial relations is indicated broadly by the nature of its decisions. In the more than 300 directives issued up to the first week in December, about 65 per cent received the unanimous approval of the employer, employee, and public representatives. In about 5 per cent of the cases, either the labor members or the employer members divided their votes. In the remaining 30 per cent of the cases, the public members voted in approximately half of the cases with the employer representatives and in half with labor members.

### RISE OF INCOME PAYMENTS

The stabilization of wage rates was designed to check inflation by keeping down the labor cost of production and by checking the rise of consumer income. The advance in rates of pay had relatively little effect, however, on total wages which expanded mainly because of increased employment and the rise in hours of work. In addition, incomes other than wages rose rapidly.

Largely as a result of the unprecedented rise in employment, the incomes of all employees rose 71.9 per cent between 1939 and 1942, the aggregate for 1942 being \$81,756,000,000. The entrepreneurial income of business men and farmers, combined with net rents, was 63.8 per cent above 1939, the 1942 total being \$21,860,000,000. Dividend and interest payments combined increased only 7.7 per cent, but the figure excludes undistributed income in the form of corporate savings totaling in 1942 more than \$2,000,000,000 in excess of the 1939 figure. The total of wages, salaries, and other labor income in the last quarter of 1942 was about 31 per cent larger

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than in the last quarter of 1941. Entrepreneurial income and net rents rose about 22 per cent. Interest and dividends combined fell about 7 per cent.

The largest group of consumers other than wage earners is the farm group. Farmers' cash income from farm marketings totaled \$12,117,000,000 in the first 10 months of 1942, a rise of 91 per cent over the same months of 1939, and a rise of 36 per cent over the corresponding period of 1941. The number of farm family workers remained about the same, and the percentage increase in total income was, therefore, about the same as the increase per farm family worker. The increases in other forms of income, with the exception of wages and salaries, were also accompanied apparently by no large changes in the numbers of income recipients.

In contrast, the main cause of the rise in total wages and salaries was the vast expansion of employment, both in numbers and in hours of work. The estimated number of employees in non-agricultural establishments rose from 31,110,000 in October 1939 to 38,478,000 in October 1942, an increase of 24 per cent; and average working time also increased sharply. The addition of about 5,000,000 men to the armed forces, not included in the above figures, contributed materially to the rise in the total income of employees.

### CIVILIAN DEMAND FOR GOODS

Retail sales during the first 10 months of 1941 totaled \$44,019,000,000 and the volume for the same period of 1942 was 3.6 per cent larger. The rise in prices kept the physical volume of sales somewhat below the 1941 levels. The index of distribution to consumers, as constructed by the Federal Reserve Bank of New York, was lower in every month from February to November 1942 than in the corresponding months of 1941. The curtailment of consumption, as measured by retail sales, occurred in spite of the widespread tendency to make purchases in advance of expected

shortages and increases in prices. Much of the increased income appears to have been used for paying off debts, buying government bonds, and saving for higher taxes in 1943. Shortages of various articles, particularly in the consumer durable-goods field, also tended to reduce consumption.

The rise in prices, however, was itself a significant indication of the threat of inflation. In view of the continued rapid rise of income available for use by consumers and the even more rapid shift of production to war uses and reduction of supplies for civilians, the threat of inflation was so serious as to require various measures other than wage stabilization. Four other methods with major significance for wage earners were control of prices and rents, rationing, taxation, and absorption of surpluses through savings.

### CONTROL OF PRICES AND RENTS

The Office of Price Administration was authorized by law on Jan. 30, 1942 to set up general price controls. The maximum prices to be established were to take into account the prices prevailing between Oct. 1 and Oct. 15, 1941. Rent control was restricted to housing in defense areas. The control of farm prices by the OPA was seriously restricted. In effect, the real or purchasing-power prices of farm products must first rise 10 per cent above, and in many cases more than 10 per cent above, the levels of the parity period, usually defined as 1910 to 1914.

On April 28, the OPA established its General Maximum Price Regulation and extended rent control to defense-rental areas in every state in the Union except North Dakota and Idaho. These measures checked the general rise, but the prices of items not subject to control continued to rise so rapidly as to have a bearing on the passage of the anti-inflation bill on Oct. 2 for removing the major limitations on the control of farm products and rents and for stabilizing wages and salaries.

The foods brought under the price freeze of Oct. 5 formed about 29 per

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cent of the average worker's family food bill. These foods increased in price 17.6 per cent between May 12 and Nov. 17, in contrast to the rise of only 1.4 per cent in foods under March ceilings. The foods placed under the freeze of Oct. 5 rose only 0.8 per cent between Oct. 13 and Nov. 17, following the price freeze, in contrast to a rise of 6.6 per cent in the foods which, on Nov. 17, were still not subject to control. Between May 15 and Oct. 15, controlled rents fell 6.8 per cent and uncontrolled rents remained virtually constant.

### CHANGES IN COST OF LIVING

Early in 1941, the index of the cost of living, like that of wholesale prices, turned upward, and after February 1941 advanced continuously. The increase from December 1940 to September 1942 was 17 per cent and from September 1941 to September 1942, 9 per cent. The general index continued upward, rising 1 per cent between September and October 1942 and 0.7 per cent between October and November. The general index was 8.7 per cent higher in November 1942 than in November 1941; the food index, 15.9 per cent higher; clothing, 10.7 per cent; rent, 0.1 per cent; fuel, electricity, and ice, 2.1 per cent; house furnishings, 7 per cent; and miscellaneous, 4.8 per cent.

Changes in cost of living were far from uniform throughout the country. From December 1940 to September 1942, the changes in 34 large cities covered by the Bureau of Labor Statistics ranged from 14.3 per cent in Minneapolis to 22.6 per cent in Portland, Ore.

The extent of change in the general index from January 1941 to May 1942 and from May to October has special bearing on wage stabilization under the "Little Steel" formula. The increase between January 1941 and May 1942 was 15.1 per cent. The continued rise of the cost of living after May 1942, and particularly the advance of 3.7 per cent between May and August in food prices, was the major cause of the adoption of the anti-inflation program in October for strengthening the

control of farm prices and rents and stabilizing wages.

New problems arose in measuring changes in the cost of living. One of these was the rise of war industries in areas from which cost-of-living data had not been obtained. The Bureau of Labor Statistics made special surveys in many of these areas. Another wartime problem was the shift in types of articles purchased, resulting from the complete or partial disappearance from the market of various items such as automobiles and refrigerators. Connected with this change was the substitution of goods and services, as in the use of public conveyances in place of private automobiles. A third problem was the raising of prices indirectly by changes in types of goods and in quality. Efforts were made to adapt the techniques of measuring changes in the cost of living to meet these conditions.

### CHANGES IN WHOLESALE PRICES

The general upward movement of wholesale prices immediately after the beginning of the Second World War in 1939 was soon halted and the index for January 1941 was not far above the average for 1939. Early in 1941, however, the upward movement was resumed, and between January and October 1941 there was a rise of 14.4 per cent. In spite of the efforts to control prices, the rise continued, the increase between October 1941 and October 1942 being 8.2 per cent. The major part of the general rise between October 1941 and October 1942 was attributable to the advances in farm products and foods, the increase in farm products being 21.1 per cent and in foods, 16.3 per cent, in contrast to the rise of only 2.2 per cent in all commodities other than farm products and foods. The all-commodities index rose less than 1 per cent between October and the middle of December 1942. The prices of some groups declined, but farm products continued to advance, the rise being almost 3 per cent.

## LABOR CONDITIONS AND LEGISLATION

### RATIONING

From the point of view of workers, the rationing of scarce goods was not merely a part of the war against inflation but also a necessary method of allocating goods to protect persons with small earnings and persons with disadvantages as to shopping facilities. The major labor organizations advocated a comprehensive and aggressive rationing policy in all instances where scarcities could be foreseen.

The rationing of scarce articles was necessary to enable workers with small earnings to maintain standards of living essential to their efficiency. The early rationing measures, applying to tires, automobiles, and gasoline, recognized specifically the necessity for avoiding a breakdown in the movement of workers to and from their jobs. Plans for extensions beyond these items and others already rationed (sugar, coffee, and fuel oil) were indicated by the preparation of a flexible point-system ration book.

### TAXES ON WAGES

Representatives of labor organizations successfully opposed measures for freezing wages and for eliminating premium payments for overtime. They were not successful in preventing the adoption of a tax policy that cut heavily into incomes below the levels regarded by them as necessary to meet the requirements of efficiency as well as fair standards of living.

The Revenue Act covering 1942 incomes reduced exemptions to \$500 for a single person and \$1,200 for the head of a family and reduced the allowance for each dependent from \$400 to \$350. It has been estimated that the lowering of exemptions will increase the number of persons subject to the regular income tax from 19,900,000 to 27,200,000 persons. The new act also raised the rates sharply in the income groups made up largely of wage earners. Thus, the effective rate for single persons with net incomes of \$1,000 was raised from 2.1 to 8.9 per cent and for married persons with incomes of \$2,000 from 2.1 to 7 per cent. The new act also bore heavily on the

wage-earning groups as a result of the inclusion of the Victory tax of 5 per cent to be levied on all the current income of an individual above \$624 a year, subject to certain post-war refunds or tax credits during the war, based on payment of insurance premiums, purchase of government bonds, or reductions of debt. The law provided for deductions for the Victory tax at each pay period from earnings in excess of the annual rate of \$624. There were also increases in excise taxes. It was widely expected that the new Congress would at once take up the question of further tax increases.

### SAVINGS AND DEBT REDUCTION AS ANTI-INFLATION MEASURES

The Victory tax provided, as already stated, for a limited volume of compulsory savings. Labor unions actively participated in the nationwide program for stimulating the voluntary buying of war bonds. Some of the unions proposed that wage increases be paid in war bonds which could not be sold or redeemed until after the war. Many groups of workers throughout the country agreed to automatic deductions from their wages for the purchase of bonds.

As early as September 1941, the Federal Reserve Board imposed credit restrictions designed to curtail the buying of consumer durable goods. These restrictions, combined with a progressive reduction in the supply of goods, were the main causes of a sharp fall in short-term consumer debts. The estimated reduction during 1942 totaled about \$3,600,000,000.

### THE MANPOWER PROBLEM

The vast increase in employment gave rise, as already stated, to the problem of preventing employee income from becoming inflationary. The problem arose not from the mere increase of income but rather from the diversion of labor into production for war as opposed to civilian use. In addition, several million workers of vigorous and productive types and ages were withdrawn from production for transfer to the armed forces. The



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manpower problem, then, was a three-fold labor problem of producing essentials required by civilians, expanding war production as rapidly as possible, and building up the armed forces for fighting a global war.

No general labor shortage developed in 1942, but inadequate supplies of some kinds of workers in certain plants and areas impeded the expansion of production. The Bureau of Employment Security, on the basis of surveys in 329 areas in September, found existing or predictable shortages of male workers in 195 areas. In view, however, of the possibilities of expanding the labor force and increasing the efficiency of its utilization, most of the existing shortages were remediable and most of the "predictable" shortages were preventable.

### DECLINE OF UNEMPLOYMENT

Unemployed workers numbered about 8,800,000 in April 1940, but the number had fallen by November 1941 to 3,900,000, and a year later to only 1,700,000. Many workers are necessarily unemployed at any given time due to rapid changes in types of production, conversion of plants, shortages of materials, transfers of workers, and unavoidable lags. The number unemployed by the end of 1942, therefore, offered no opportunity for any considerable expansion of war production.

### EXPANSION OF THE LABOR FORCE

The labor force varies from season to season, as for example when students obtain jobs in the summer months. Many circumstances affect the willingness of individuals to enter the labor market, and in wartime the labor force as defined is affected by the transfer of workers from ordinary employments to the armed forces.

The net results of increases and reductions in the labor force was a rise from 54,100,000 persons in November 1941 to 54,500,000 in November 1942. A November survey indicated the possibility of a further immediate expansion of the labor

force by about 5,000,000 persons who could take full-time employment. Most of these were women engaged in housework in their own homes. Other groups included young persons normally in school and workers who because of age or other circumstances do not seek work under normal circumstances. A source of labor for war production which does not materially affect the number in the labor force or the total volume of employment is the transfer of workers, including many self-employed persons, from non-essential industries which under war conditions can be contracted, as many branches of retail trade.

### EMPLOYMENT OF WOMEN

The estimated number of men in non-agricultural employments in November 1942 was 29,100,000, somewhat below the figure of 29,500,000 in November 1941. The number of women, on the other hand, rose from 11,700,000 to 13,900,000. There was also a sharp increase of female workers in agriculture, the estimated number in November 1941 being 800,000 and in November 1942, 1,400,000.

Studies have indicated that the average woman's physical strength is 570/1000 of the strength of a man, and her resistance, 679/1000 of that of a man. These differences, together with women's relative lack of experience and training in many skilled occupations, limited the availability of women. It was found, however, that in most of the war industries a considerable proportion of jobs could be filled satisfactorily by women. Thus, in aircraft assembly plants, the proportion is from one-third to one-fourth of all jobs, and in artillery ammunition and components, more than one-half. In the government arsenal at Frankford, about 40 per cent of the productive workers in 1941 were women. Major fields for expanding the employment of women, however, were in employments normally filled by men in various peacetime industries, the men thus being released for employment in essential occupations and industries or for transfer to the armed forces.

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Various measures were adopted for increasing the employment of women and for safeguarding the conditions of their employment. These included the development of facilities for counseling employers, the supplying of information regarding the maintenance of satisfactory conditions of employment, the adaptation of state laws to facilitate transfers without relaxing protective measures, arrangements for training, the development of community facilities such as suitable living quarters, eating facilities, and day nurseries, and the extension of the principle of equal pay for equal work.

### CONTROL OF MANPOWER: WAR MANPOWER COMMISSION

A major step in the control of manpower was the establishment of the Selective Service System under the act of Sept. 16, 1940. The transfer of workers to the armed forces had little vital bearing on the manpower problem in industry until shortages of workers occurred in essential occupations and industries. Some shortages of this nature developed in 1941, but the major problems of transferring workers to the armed forces with a minimum disturbance of production did not develop until 1942.

Earlier agencies for handling problems of labor supply were transferred to the War Manpower Commission by an executive order of April 18 establishing the Commission. The WMC was composed of the Federal Security Administrator as chairman and representatives of the Departments of War, Navy, Agriculture, and Labor, the War Production Board, Labor Production Division of the WPB, Selective Service System, and Civil Service Commission. Various agencies were directed to conform to the policies and instructions of the chairman of the WMC in respect to functions bearing on those of the Manpower Commission. Certain agencies were transferred directly to the WMC. A joint management-labor policy committee was formed and the major policies of the WMC were approved by this committee.

### PROPOSED NATIONAL WAR SERVICE LAW FOR WORKERS

The increasing pressure of demand for workers both in the armed forces and in war industries made it apparent that the somewhat loose-jointed organization of the WMC was not wholly effective in carrying out the functions assigned to it. A conflict of views arose, particularly over the degree of compulsion in the handling of manpower. One view urged the adoption of compulsory industrial service and the freezing of workers to their jobs in a manner resembling the operation of the Selective Service System. The joint management-labor policy committee opposed national war service legislation, as did the Senate special committee to investigate the national defense program and the House select committee to investigate labor migration.

The management-labor policy committee of the WMC recommended that there should be a centralized control of the apportionment of manpower and that to this end the Selective Service System should be transferred to the WMC. It also recommended that voluntary enlistments be discontinued, that training programs in civilian establishments for the armed forces be coordinated with civilian training programs, and that the WMC be strengthened and its authority extended, particularly in controlling the hiring and transfer of workers.

### REORGANIZATION OF THE WMC

The recommendations of the management-labor policy committee of the WMC and of Congressional committees were followed by a reorganization of the WMC under an executive order of Dec. 5. The Selective Service System was transferred to the WMC. Voluntary enlistments were discontinued. The chairman was directed to make use of the Employment Service for the effective control of hiring and rehiring and to prevent employers from retaining workers more urgently needed in other employments. The chairman of the

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WMC was given authority, after consultation with the Secretaries of War and Navy, to prescribe policies and regulations for the use of civilian educational facilities for the training both of the armed forces and of civilian workers. The President's executive order called specifically for a joint management-labor policy committee.

On Dec. 16, the chairman of the WMC announced a reorganization with five operating divisions. These were the Bureaus of Program Planning and Review, Selective Service, Placement, Training, and Labor Utilization.

### COOPERATIVE MEASURES FOR CONTROL OF MANPOWER

Joint labor-management measures for the voluntary control of manpower in areas of labor shortage were announced in outline as early as July. The plan was worked out experimentally in the Baltimore area and was extended in October to 11 other areas. A plant producing for war could not hire a worker from another war plant without a written release from his employer. Employers in a designated area agreed to employ local labor as far as possible, thus discouraging the movement of outside workers into the area. If an employer could not obtain workers locally, he was to obtain outside workers only through the Employment Service.

Agreements in the non-ferrous metals and lumber industries of western states were designed to reduce labor turnover and check the loss of workers. A worker must obtain a "certificate of separation" from a representative of the Employment Service before leaving a job in one of these industries to obtain other work. An employer must require such a certificate before hiring a man who had been working in either of the industries. An employer could not dismiss an employee except for "gross misconduct" without the approval of a designated representative of the Employment Service. Somewhat similar

to these arrangements, although less rigorous in controlling the movement of workers, was a plan approved in December by the Detroit Management-Labor Committee of the WMC.

An executive order of Sept. 12 gave authority over transfers of Federal workers to the WMC, which designated the Civil Service Commission as the administrative agency. Broad powers were granted for the transfer of employees from one agency to another without the consent of the employee or the agency. The Commission could also order the transfer of employees to private enterprises without the consent of the agency but not without the consent of the employee.

### TRAINING OF WAR WORKERS

The training program for 1942 was essentially an expansion of work begun in 1940, together with the centralization of training work under the general direction of the WMC, which in December established a Bureau of Training. The training-within-industry program begun in the summer of 1940 was transferred in April 1942 to the WMC. By the end of 1942, more than 6,500 war production plants employing more than 6,000,000 workers had obtained job instructor training services and 335,000 trainers had been certified as job instructors. Special arrangements were made for dealing with training problems in shipbuilding and other critical industries. The program was carried out with the approval and cooperation of both management and organized labor.

During the year ended in October, the Federal Committee on Apprenticeship, working closely with both management and labor, approved 908 apprenticeship programs. The number of approved programs in operation rose from 1,066 to 1,974. Programs conforming to the minimum standards advocated by the Federal Committee on Apprenticeship were in operation in 45 states and the District of Columbia. The schools and colleges expanded their work in voca-

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tional and technical education under a program of extensive Federal Government contributions.

Most of the larger Federal agencies extended their facilities for the training of employees, particularly in clerical, service and custodial, and trade and manual employments. The main developments in this field, particularly as affecting the wage-earning groups, were in the War and Navy Departments. These two agencies together employed, as early as April 30, about 1,125,000 civilians, including in large proportion manual workers connected with such enterprises as navy yards, arsenals, airfields, and supply depots at home and abroad. Soon after the outbreak of war, the Navy Department alone had enrolled about 4,000 persons in administrative, technical, and clerical training programs, about 1,200 in apprenticeships in 35 trades, and more than 40,000 in programs to augment skills.

### MEASURES FOR MAINTAINING THE EFFICIENCY OF WORKERS

The bringing into employment of large numbers of young persons, older workers, and persons not normally in the labor force tended to retard the normal upward trend of labor productivity. The large-scale conversion to new types of output and the necessity for adaptations to new and often difficult conditions of work and production had similar effects at a time when the war emergency called for maximum output. In addition to training, various measures were undertaken for meeting such problems as those of housing, health, accident prevention, development of transportation facilities, and reduction of labor turnover.

Noteworthy progress was made, especially in war housing. An executive order of Feb. 24, 1942 consolidated the various war housing activities under the National Housing Agency. Construction of houses, except for meeting the needs of war workers, was virtually suspended. During the year, 278,000 new war

housing units were completed, and at the end of the year 294,000 were under construction.

### RISE IN HOURS OF WORK

The net amount of manpower was increased significantly by longer hours of work, although in war industries earlier increases limited the rise in 1942. Thus, in machine tools, the average for 1939 was 42.9 hours per week and in October 1941, 52 hours, only a slight further increase of 1.2 per cent occurring by October 1942. These averages cover all wage-earners on the payroll for any part of the pay period and are not the hours of workers regularly on the job. Some workers were on the job as long as 70 hours per week, and in a few instances even longer. In machine tools, as early as February 1942, only 1.4 per cent of the plants had average hours per man below 40 hours per week, and 90.2 per cent of the plants had averages of 48 hours or more per week, while 4.2 per cent had averages of 70 hours or more per week. Hours continued to rise. In October 1942 about 16 out of every 100 workers making artillery were in plants averaging at least 64 hours per worker and about nine out of every 100 were in plants averaging 70 hours.

In manufacturing industries as a whole, the working time of all workers in October, whether on the job the entire week or only a part of the time, averaged 43.6 hours, but the hours of many workers were much longer. As early as March 1940, more than one-fourth of all workers in manufacturing worked more than 40 hours per week, and eight out of every 100 male workers worked more than 48 hours. Average hours in manufacturing in October 1942 were 16.3 per cent longer than in March 1940 and 6 per cent longer than in October 1941.

Public discussions of the bearing of hours of work on the manpower problem centered around the so-called 40-hour week, but it was apparent that in most industries hours were materially above that average even when the effects of such circumstances



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as absences, labor turnover, and plant shutdowns are taken into account. The term 40-hour week was made the focus of discussion because of the prevailing rule in collective agreements and in the Fair Labor Standards Act that hours above 40 should be counted as overtime and paid for at overtime rates. The slight bearing of premium rates for overtime on the full use of labor is indicated by reports to the Bureau of Labor Statistics in January 1942 from 650 employers, only two of whom viewed overtime pay after 40 hours as standing in the way of adequate plant operation. The overtime rule tended, in fact, to draw workers into war industries because of the added compensation.

### SHIFTS IN EMPLOYMENT

Between October 1941 and October 1942, employment in manufacturing establishments rose 12.6 per cent; in transportation and public utilities, 3.4 per cent; in finance, service, and miscellaneous establishments, 1.7 per cent; and in Federal, state, and local government (excluding the armed forces), 25.7 per cent. The number of employees in mining fell 8.7 per cent; in construction, 8 per cent, and in trade, 5.3 per cent.

About 85 per cent of the increase in Federal civilian workers, after June 1940, was in the War and Navy Departments. Employees in these departments were predominantly in such fields of employment as navy yards, arsenals, construction enterprises, quartermaster depots, the servicing of airplanes, and the maintenance of army camps, naval training stations, and hospitals.

Shifts of employment accounted for much of the expansion of the war industries. In transportation equipment other than automobiles (mainly aircraft and shipbuilding) employment increased 139.3 per cent between October 1941 and October 1942, after a phenomenal earlier increase. The rise in employment in chemicals and allied products was 42.7 per cent in spite of considerable reductions in

some of the industries composing this group. Decreases in employment in separate manufacturing industries between October 1941 and October 1942 ranged almost as high as 50 per cent. Among the major groups of manufacturing industries, the reduction in the furniture and finished lumber products group of industries was 13.4 per cent; in the paper and allied products group, 10.1 per cent; in the apparel and other finished textile products group, 7.8 per cent; in the leather and leather products group, 6.7 per cent, and in the printing and publishing group, 7 per cent.

### WAGES IN RELATION TO MAN-POWER

In a society where individuals can choose their jobs, a major function of wage adjustments is the drawing of workers into the industries or occupations where workers are needed. The manning of war industries was largely brought about in this manner. Increases in average hourly earnings in 1942 were relatively large in the expanding war industries and relatively small in most of the industries with stable or declining employment. Thus, from October 1941 to October 1942, hourly earnings in newspapers and periodicals increased only 5.2 per cent, and in book and job printing only 7.5 per cent, less than the rise in cost of living, and in the two industries combined, employment declined about 7 per cent. In several of the non-manufacturing industries, including retail trade, the largest of this group, hourly earnings failed to keep pace with cost of living, and these industries had either declines or relatively small increases in employment.

The rise in wages tended to draw workers into war industries by offsetting some of the disadvantages of employment in these industries. Emergency jobs will require transfers to other industries and perhaps to other occupations at the end of the war, and they imply also a relatively serious risk of unemployment. Emergency workers who moved to new

## LABOR CONDITIONS AND LEGISLATION

locations had to sever their local ties, bear the cost of migration, and suffer the disadvantages of inadequate housing and community facilities in areas where living costs were rising more rapidly than in the country as a whole. Government assumed many of the financial responsibilities of expanding capital equipment for temporary uses, but the temporary and unstable employment of workers was counterbalanced only by such advances in earnings as the workers were able to obtain.

### EXTENT OF CHANGE IN WAGES

Average hourly earnings in manufacturing as a whole rose 15.1 per cent between October 1941 and October 1942, but the increase in basic rates of pay was smaller. In many occupations and industries, piece-rate workers increased their rates of output and thus increased their hourly earnings independently of changes in rates of pay. The movement of workers into high-wage industries, by giving greater weight to relatively high wages, raised the general average independently of changes in rates. Thus, hourly earnings in transportation equipment averaged \$1.114 in October 1942, in contrast to only \$0.647 in textiles and finished textile products, employing more than 2,000,000 workers, and between October 1941 and October 1942 employment in transportation equipment more than doubled, rising 139.3 per cent, while employment in textiles and finished textile products fell 5.2 per cent. Hourly earnings also rose to some extent because of the relatively large increase in overtime payable at premium rates, as for example, in aluminum manufactures, in which gross hourly earnings rose 16 per cent and straight-time hourly earnings only about 13 per cent.

Increases in average hourly earnings in non-manufacturing industries ranged from a negligible advance of less than 1 per cent in anthracite mining to 18.2 per cent in building construction. It was only in building construction that hourly earnings rose more than in manufacturing.

Wages in coal mining were determined largely by industry-wide collective agreements, and major changes in these industries had been brought about earlier in 1941.

The President, on Dec. 11, asked Congress to adjust the rates of pay of Federal employees and to provide for uniformity of overtime regulations. Under a joint resolution, not to be effective beyond April 1943 and limited to an extension of compensation for overtime, the President issued regulations designed to bring about a general 48-hour week, already adopted in some agencies, with provisions for time and a half for work in excess of 40 hours per week. The compensation for overtime was limited to an employee's basic rate not in excess of \$2,900 per year, and no employee could receive compensation for overtime if it would raise his total annual compensation above \$5,000.

### THE FARM WAGE PROBLEM

Farm wage rates were one-third higher in October 1942 than in October 1941, and after this rapid advance, the average daily wage without board was \$2.76. The July average was \$2.45. The average working day was about 10 hours. The hourly wage thus averaged less than 25 cents in July and less than 28 cents in October. In contrast, the hourly wage of railroad section men in July was 53.3 cents, and the daily wage for an 8-hour day was \$4.26. The entrance rate of adult male common laborers in 13 industries was 63.5 cents per hour or \$5.08 per day. Unskilled road construction labor averaged \$4.72 for an 8-hour day, and the union wage for building laborers was about \$6.30.

Farm wage rates remained relatively low, but the rapid rise created problems for many farmers. The trend of labor cost since the parity period, however, was on the whole favorable to farmers. Under the parity policy adopted by Congress, the indexes of farmers' prices paid and received are based as a rule on the average of the parity period from 1910 to 1914. The cost of hired farm labor per unit of output in 1941 was 12 per cent above

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the cost from 1910 to 1914 but the prices paid by farmers for items other than labor averaged 34 per cent higher than in the parity period. The prices paid by farmers also rose more than did the cost of factory labor per unit of output, which was only 27 per cent higher in 1941 than in the parity period.

The general wage stabilization policy was not applied to farm wages. This was in recognition of the relatively low levels of farm wages. In addition, hired farm workers are ordinarily unable to take organized action for collective bargaining or self-help, and laws for safeguarding the right to organize, minimum wage laws, unemployment and old age insurance systems, and even workmen's compensation laws do not, as a rule, apply to hired farm workers.

### RISE IN WEEKLY EARNINGS

In manufacturing as a whole, weekly earnings in October 1942 averaged \$38.86, the increase over October 1941 being 25 per cent. Many industries underwent declines between September and October 1942, and the increases between October 1941 and October 1942 ranged widely. The rise in printing, publishing, and allied industries was only 7.4 per cent, and the increases in most of the non-durable goods groups were below the average rise of 25 per cent. The only non-manufacturing industry that had an increase in weekly earnings as large as that in manufacturing was building construction, in which the rise was 25.6 per cent.

A special analysis of weekly earnings of factory workers in December 1941 indicated that at that time half of the workers earned less than \$30 per week and one-fourth earned less than \$20 per week. In the major groups of industries contributing prominently to war production, one-eighth of the workers earned less than \$20 per week. Assuming regular employment for 50 weeks in the year, the annual income of a worker earning \$20 per week would be \$1,000. The estimated cost of living for a four-person manual

worker's family at the maintenance level, as defined by the Works Progress Administration and as computed currently for 33 cities by the Bureau of Labor Statistics, ranged, in December 1941, from \$1,374 in Mobile, Ala., to \$1,633 in Washington, D. C. The income of many families is made up of the earnings of more than one worker. A special study of the earnings of city families indicates that, in 1941 and the first three months of 1942, 15 per cent of the families of two or more persons had incomes of less than \$1,000, that 29 per cent had incomes of less than \$1,500 in 1941, and that 27 per cent were receiving incomes in the first three months of 1942 at an annual rate of less than \$1,500.

### FEDERAL LABOR LEGISLATION

General measures affecting labor included the laws, already mentioned, relating to price control, housing, taxation, and stabilization of wages and farm prices. The most important legislation dealing specifically with labor was in the field of Federal employment.

In addition to the measures already mentioned for extending the hours of Federal employees and paying overtime, a new retirement act was passed early in the year. This measure increased the payroll deductions for the retirement fund from 3½ per cent to 5 per cent. An employee was given the privilege of retiring, and the head of a department or agency was given the authority to require retirement, at the age of 60 after 30 years of service or at the age of 62 after 15 years of service. A more flexible system of retirement benefits was adopted under a new formula for adjusting the benefits to take account of the amount of salary and the length of service.

### STATE LABOR LEGISLATION

An exceptionally small amount of state labor legislation was enacted in 1942. Only eight state legislatures met in regular session and only six in special session. The increased labor

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requirements led to many requests from employers for exemptions from laws. At the request of an interstate conference called by the Secretary of Labor for Jan. 5, 1942 the Division of Labor Standards of the Department of Labor was made a clearing-house of information on procedures used by the states in granting emergency exemptions. The conference also adopted a set of standards which should be maintained except where relaxations were necessary to assure maximum production.

Action by the state legislatures dealt largely with procedures for handling requests for emergency exemptions from state laws. Minor measures were passed by some of the states in such fields as workmen's compensation and accident prevention. Measures of considerable importance included a Mississippi anti-violence act and a Rhode Island health insurance act. The Mississippi law prohibited the use of force or violence or threat of force or violence to prevent any person from working, and prohibited also the conspiring together of two or more persons for keeping anyone from working. Any assembling of persons anywhere in the state for the purpose of furthering such a conspiracy was defined as a felony.

Rhode Island became the pioneer state in the enactment of compulsory health insurance legislation. Direct medical care is not provided for in the law, but cash compensation is made compulsory for unemployment caused by disability from sickness. All employees subject to the State Unemployment Compensation Act are covered and the act is administered by the Unemployment Compensation Board. Workers on April 1, 1943, become eligible for benefits after a week's waiting period. Employees contribute to the fund 1 per cent of their wages up to \$3,000 in any calendar year, the contributions being deducted from wages by employers.

### COURT DECISIONS

The 1942 decisions of the United States Supreme Court directly affect-

ing labor dealt in the main with administrative problems. Several decisions were accompanied by dissenting opinions and in some instances the court divided by a 5-to-4 vote.

Some of the decisions had the effect of restricting the powers of administrative agencies. Thus, in the Cudahy Packing Company case, the Administrator of the Fair Labor Standards Act was denied authority to delegate the subpoena-issuing power to regional directors, and a dissenting opinion held that this "may well retard the social and economic program which the Act inaugurated." In the A. H. Belo Corporation case, restrictions were placed, by a 5-to-4 decision, on the application of the overtime provisions of the Fair Labor Standards Act. The National Labor Relations Board, in the Virginia Electric and Power Company case, was required to reconsider the basis of its action in declaring that certain statements made by the company were coercive and in violation of the rights of their employees. In the Southern Steamship Company case, the Court, by a 5-to-4 decision, ruled against an order of the National Labor Relations Board. The decision held that a sit-down strike by seamen is mutiny even when the vessel is in port. In various decisions relating to administrative detail, the Court upheld administrative agencies in their interpretations of their authority.

### PROPOSED EXTENSION OF SOCIAL SECURITY SYSTEM

The President, in his budget message to Congress on Jan. 7, 1942, recommended an extension of the coverage of old age and survivors insurance, the enlargement of programs of permanent and temporary disability payments and hospitalization payments, and the adoption of a more liberal and expanded unemployment compensation plan in a uniform national system. Recommendations of this general nature were made by the Social Security Board and by such private organizations as the American Association for Labor Leg-



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islation. The AFL and the CIO both vigorously supported an extension of the program. Many of the proposals included health insurance. The comprehensive social security plans embodied in the Beveridge Report in England and in resolutions of the Inter-American Conference on Social Security at Santiago, Chile in September, added to the interest in extensions of the system in the United States.

### POST-WAR POLICY

The proposals of the major labor organizations for an extension of the social security system were closely related to the programs which these organizations began to formulate for the post-war period. Suggestions of a tentative nature only were made at the annual conventions, but steps were taken to formulate definite proposals. Both the AFL and the CIO appointed committees to work with the Division of Post-War Labor Problems of the Bureau of Labor Statistics. Plans were also under consideration for labor representation in conferences and on public agencies for making peace and handling post-war problems, and efforts were made to establish working relations with international labor organizations in the field of post-war policy.

### INTERNATIONAL UNIONISM

The International Federation of Trade Unions, in which a part of the American labor movement is represented, reported at a conference held in London in July that the Federation had 13 normally functioning affiliated national centers with an aggregate membership of nearly 13,000,000 workers. An international trade union council was set up with American representation. A subcommittee was chosen to consider the post-war economic and social policies of labor, and

another to study the post-war reconstruction of the international trade union movement.

In May, the Secretary of the British Trade Union Congress proposed, on behalf of his organization, a joint commission to consist of representatives of the British Trade Union Congress, the AFL, and the Soviet trade unions. This proposal met with obstacles too serious to be immediately overcome. One obstacle was disagreement regarding the representation of unions not affiliated with the AFL.

Lack of unity of organized labor both in the United States and in some of the Latin-American countries also retarded the progress of unions in the field of inter-American cooperation. Some degree of collaboration was achieved in the first Inter-American Conference on Social Security held in Santiago, Chile in September. This was not primarily a trade union conference, but labor organizations participated. The conference decided to act in concert with the International Labor Office and to set up a permanent committee which included tripartite representatives appointed by the Governing Body of the International Labor Office.

An emergency committee of the International Labor Office, created at the New York meeting of the Governing Body in November 1941, met at London in April 1942. The most important decision made by the committee at this meeting was the creation of an advisory committee on the economic conditions of the post-war settlement. This action was designed to give effect to the so-called "American resolution," adopted at the 1941 New York-Washington conference of the ILO. This resolution embodied in outline a post-war program and proposals for ILO representation at post-war peace and reconstruction conferences.

# EMPLOYMENT STATISTICS

## EMPLOYMENT STATISTICS

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### EMPLOYMENT IN FIRST WAR-YEAR

The outbreak of war at the end of 1941 provided a sharp stimulus to production and employment. Although the rapidity of adjustment to the needs of war production created pockets of unemployment, both production and employment increased steadily over the year. The Federal Reserve Board's index of industrial production (seasonally adjusted) stood at 171 in January 1942, at 180 in July, and at 194 in September, compared to 100 in the period 1935-39. The number of employed persons in the civilian labor force was 52,400,000 in September 1942, as compared to 47,900,000 in September 1940 (estimated from Bureau of Census sample monthly report on the labor force). The number unemployed in September 1942 was estimated at 1,700,000, compared to 7,000,000 in the same month of 1940. (See Table I).

The number employed by non-agricultural establishments increased steadily each month, irrespective of normal seasonal movements, as shown in estimates prepared by the United States Bureau of Labor Statistics (See Table II). However, although the overall figures showed a steady gain, two major industry divisions—construction and trade—experienced employment declines which were offset by the great increases in manufacturing employment. Employment in war industries was at 6,900,000 in December 1941, and had more than doubled, amounting to 17,500,000, at the end of 1942. The War Manpower Commission estimates that it will be necessary to add about 5,500,000 from those not normally in the labor market to the labor force by the end of 1943.

At the opening of the year, the total civilian non-agricultural em-

TABLE I

### ESTIMATED CIVILIAN LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT BY AGE GROUPS

(September, 1940, 1941, and 1942)

Labor - Market Status and Age	1942	1941	1940
	September	September	September
	Estimated Number (Millions of Persons)		
Labor force.....	54.1	54.8	54.9
14 to 24 years....	12.0	12.6	12.8
25 to 54 years....	33.6	33.8	34.2
55 years and over..	8.5	8.4	7.9
Employed.....	52.4	50.3	47.9
14 to 24 years....	11.4	11.0	10.2
25 to 54 years....	32.7	31.7	30.8
55 years and over..	8.3	7.6	6.9
Unemployed.....	1.7	4.5	7.0
14 to 24 years....	.6	1.6	2.6
25 to 54 years....	.9	2.1	3.4
55 years and over..	.2	.8	1.0
	Unemployment Rate (Per Cent)		
All age groups.....	3.2	8.3	12.8
14 to 24 years....	4.4	12.9	21.0
25 to 54 years....	2.6	6.2	9.9
55 years and over..	3.5	9.8	12.3
	Percentage Distribution of Unemployed		
All age groups.....	100.0	100.0	100.0
14 to 24 years....	30.8	35.9	38.1
25 to 54 years....	51.8	46.1	48.1
55 years and over..	17.4	18.0	13.8

ployment estimate was 40,963,000, the highest on record. In the first three months of 1942, the effect on employment of conversions of plants and material shortages was conspicuous. The layoffs which received most public attention were those in the automobile industry, which laid off 64,400 workers in January 1942, pending conversion of the plants to plane manufacture. Other industries in which employment declines occurred in January due to plant conversion or ma-

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TABLE II

### EMPLOYEES IN NON-AGRICULTURAL ESTABLISHMENTS<sup>1</sup>

(In Thousands)

Month	Number	
	Unadjusted	Seasonally Adjusted
January.....	34,876	35,816
February.....	35,062	35,952
March.....	35,411	36,001
April.....	35,998	36,153
May.....	36,346	36,274
June.....	36,666	36,459
July.....	37,234	37,053
August.....	37,802	37,435
September.....	38,348	37,648
October.....	38,478	37,964
November.....	38,437	38,232

(1) Excludes proprietors of unincorporated businesses, self-employed persons, domestics employed in private homes, public emergency employees (WPA, NYA, and CCC), and personnel in the armed forces.

terial shortages were stoves, radios and phonographs, furniture, clocks, watches, and jewelry, plumbers' supplies, lighting equipment, hosiery, woolen and worsted goods, silk, rayon, and carpets and rugs.

From January to February there was a less-than-seasonal increase in factory employment, due to continued conversions, and in March the employment increase over the preceding month was 0.7 per cent, instead of the normal seasonal gain of 1.4 per cent. By April, however, all major employment groups showed increases, and the employment gain from the preceding month was twice the normally expected increase from March to April. The one exception was employed in trade, which declined because of the curtailment of automobile and furniture sales.

The increase continued throughout the next six months of the year the virtually unbroken expansion of employment which had begun in June 1940, except for trade and construction, where war restrictions greatly curtailed business activity with consequent employment declines. It should be noted that payrolls rose more rapidly than employment dur-

ing the year, owing not only to the payment of overtime rates and wage increases, but also to increases in working hours of those already employed.

### EMPLOYMENT CHANGES BY INDUSTRY

By September 1942, factory employment had increased almost half over the average for 1923-25. (See Table III) The greatest increase was in employment in durable goods manufacture. Employment in the manufacture of machinery was more than double the 1923-25 level, and employment in the manufacture of transportation equipment was well over three times as high as in 1923-25. By December 1942, employment in the manufacture of airplanes had reached 640,000, an increase of 130 per cent since December 1941, at the outbreak of war. Employment in the manufacture of non-durable goods was affected by curtailment of civilian goods. In September 1942, employment in the manufacture of textiles and their products, leather and manufactures, and rubber products was

TABLE III

### FACTORY EMPLOYMENT, BY INDUSTRY, SEPTEMBER, 1942 AND 1941

(Seasonally Adjusted Indexes:  
1923-25 Average = 100)

Industry	September	
	1942	1941
Total.....	145.0	132.3
Durable Goods.....	167.2	141.3
Iron and Steel and Products	133.7	139.7
Machinery.....	219.7	178.4
Transportation Equipment	329.1	195.4
Non-ferrous Metals and Products.....	149.0	144.8
Lumber and Products....	69.4	77.3
Stone, Clay and Glass Products.....	89.5	98.7
Non-durable Goods.....	123.8	123.8
Textiles and Products....	108.2	114.7
Leather and Manufactures	90.5	98.0
Food and Kindred Products	152.2	138.8
Tobacco Manufactures....	64.9	62.0
Paper and Printing.....	114.4	124.4
Chemicals, Petroleum and Coal Products.....	161.2	145.7
Rubber Products.....	107.4	111.6

## EMPLOYMENT STATISTICS

lower than in the same month of 1941. Employment in paper and printing was also at a lower level than a year earlier. The manufacture of food and kindred products, however, was greatly stimulated by military purchases, and employment was 50 per cent higher than in 1923-25 and markedly above that for September 1941.

### EMPLOYMENT IN MINING

Employment in anthracite coal mining was not in general at as high levels in 1942 as in 1941. There has been a general tendency for the employment index for bituminous coal mining to be higher in 1942 than in immediately preceding years. Employment in metalliferous mining was at a higher level in 1942 than in 1941 and was considerably higher each month than in 1939. Changes in mining employment, with 1929 as a base, are shown in Table IV, in indexes prepared by the United States Bureau of Labor Statistics.

### RAILROAD EMPLOYMENT

Activity on American railroads has of course been entirely altered by the war. For some years prior to the outbreak of war, the railroads were encountering strong competition from trucking, automobiles, and airplanes. This competition has apparently had a permanent effect on levels of employment on railroads, since even in 1942 levels of employment were below those of the 1923-25 period. However, compared to the average for 1935-39, employment on railroads during 1942 showed marked increases. (See Table V) According to indexes of employment issued by the Inter-

state Commerce Commission, employment increased each month through 1942, and in September was more than 25 per cent greater than the 1935-39 average.

TABLE V

### EMPLOYMENT IN CLASS I STEAM RAILROADS

(Seasonally Adjusted Indexes;  
1935-39 Average = 100)

Month	1942	1941	1939
January.....	119.3	104.1	95.2
February.....	119.0	104.9	95.9
March.....	120.0	106.1	95.6
April.....	122.6	106.9	93.9
May.....	123.0	109.0	92.7
June.....	124.0	110.8	95.3
July.....	125.7	113.5	95.7
August.....	126.4	115.4	96.1
September.....	127.0	116.4	98.1

### EMPLOYMENT IN UTILITIES AND TRADE

The war has greatly increased the use of telephone and telegraph services and of street railways and buses in those parts of the country where defense activity is prominent. Employment in 1942 on street railways and buses was above the levels of the preceding year. Employment by telephone and telegraph companies also increased in 1942. Employment by electric light and power utilities was somewhat below the corresponding months of the preceding year.

The retail and wholesale branches of trade were affected during 1942 by several factors: attempts to create inventories in anticipation of shortages of consumers' goods, spurts of purchasing by the public for the same reason, and, in the latter part of the year, the actual impact of curtailment. In mid-summer, employment in both branches of trade was affected adversely. Retail trade revived seasonally, but wholesale trade continued to decline in the late summer of 1942.

Table VI shows the United States Bureau of Labor Statistics indexes for leading utilities and the two trade groups in four selected months of 1942.

TABLE IV

### MINING EMPLOYMENT

(Unadjusted Indexes; 1929 Average = 100)

	November	
	1942	1941
Anthracite.....	46.4	50.2
Bituminous.....	89.4	95.1
Metalliferous.....	77.4	79.5



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TABLE VI

## EMPLOYMENT INDEXES IN UTILITIES AND TRADE

(1929 = 100)

	January	April	July	September
Public Utilities				
Telephone and Telegraph.....	90.3	91.0	93.5	93.8
Electric Light and Power.....	92.0	89.2	86.7	84.1
Street Railways and Busses.....	70.5	72.5	74.8	75.3
Trade				
Wholesale.....	94.9	92.4	89.7	89.4
Retail.....	95.7	93.9	90.3	91.7

### CONSTRUCTION EMPLOYMENT

During the year, the United States Bureau of Labor Statistics released a report on employment in new construction from 1939 to 1942, which shows a total decline in average monthly employment over these years. (See Table VII). It is estimated that peak employment in 1942 was in August, when 2,328,000 persons were engaged in construction work. At that time, however, nearly 65 per cent were employed on construction financed from public funds.

TABLE VII

### ESTIMATED EMPLOYMENT ON NEW CONSTRUCTION

	Average Monthly Employment
1939.....	1,590,000
1940.....	1,738,000
1941.....	2,297,000
1942.....	1,949,000

There has been a marked shift from private to public construction activity over this period, which has made the course of employment in the industry extremely erratic. Thus,

while, in 1939, the average monthly employment was 967,000 on private projects and 623,000 on public projects, in 1942 average monthly employment on war and other public projects amounted to 1,190,000, as compared with 759,000 on private projects. In non-defense areas, unemployment among construction workers appeared frequently during the year, and there was consequently a considerable amount of geographical shifting of construction labor to seek government construction jobs.

### AGRICULTURAL EMPLOYMENT

Since 1935 the average number of family workers employed on farms annually has been steadily decreasing. In 1942, there was very little change from 1941 in this respect. There has also been a slight decline in the amount of hired labor employed by farmers since 1937, and there was little change in the annual average from 1941 to 1942. However, in 1942, because of the heavy demand for their products, farmers sought labor among school children, women, and townspeople, and the composition of the farm labor force was drastically

TABLE VIII

### EMPLOYMENT IN FARM WORK

(in thousands)

	1942	1940	1938	1936	1934
January.....	8,287	8,543	8,617	9,062	9,044
June.....	11,917	11,991	12,316	12,693	12,695
August.....	11,249	11,403	11,415	11,372	10,911
November.....	10,879	11,211	11,360	11,139	10,835

## EMPLOYMENT STATISTICS

changed. The United States Department of Agriculture published during the year the numbers employed on the first of each indicated month by farmers. (See Table VIII)

### PUBLIC EMPLOYMENT

From January 1939 to July 1942, government employment (Federal, state, and local) rose by 1,413,000, to a total of 5,415,862. Almost half this increase occurred within eight months after the United States entered the war. In the 3½-year period, state and local government employment was declining so that the increase in the total is attributable to a large increase in Federal employment, which more than offset the state and local decrease. Federal employment now represents 45 per cent of the total, whereas at the beginning of 1939 it was only 22 per cent of the total. Only 6 per cent of all government employees, however, are stationed in the District of Columbia, and by far the greater percentage increase since January 1939 has occurred outside the District. California, New York, and Pennsylvania all have larger percentages of Federal employees than the city of Washington. Table IX shows the number of Federal, state, and local employees in July 1942, as computed by the United States Bureau of Labor Statistics. The major part of the Federal civilian employ-

TABLE IX

### PUBLIC EMPLOYMENT, BY MAJOR FUNCTION, JULY, 1942

Branch and Service	Number Employed
Total.....	5,415,862
Federal.....	2,419,835
Executive service.....	2,377,955
Inside District of Columbia.....	217,258
Outside District of Columbia <sup>(1)</sup> .....	2,100,697
Legislative.....	6,526
Judicial.....	2,653
Government corporations <sup>(2)</sup> .....	32,701
State and local.....	2,996,027
General government.....	1,691,417
Education <sup>(3)</sup> .....	1,146,738
Public-service enterprises.....	157,871

(1) Includes federalized employees of public employment offices.

(2) Estimated at same level as June 30, 1942.

(3) Regular teachers considered as employed throughout the year.

ment is in war agencies, with the War Department by far the largest single unit. (See Table X, also based on Bureau of Labor Statistics data.)

### UNEMPLOYMENT

Estimates of total unemployment were shown in Table I. These estimates are the most comprehensive available, and are now the most generally accepted of all unemployment estimates. The war has had a pronounced effect on the unemployment benefit claim load throughout the nation. In August, 1942, receipts of claims for new spells of unemploy-

TABLE X

### CIVILIAN EMPLOYMENT IN EXECUTIVE BRANCH OF FEDERAL GOVERNMENT, BY PRINCIPAL WAR AND NON-WAR AGENCIES, JULY, 1942

Department or Establishment	Number Employed <sup>(1)</sup>		
	Total	Inside District of Columbia	Outside District of Columbia
All agencies.....	2,377,955	277,258	2,100,697
War establishments.....	1,510,517	132,234	1,378,283
War Department.....	940,005	58,701	881,304
Navy Department.....	475,683	45,501	430,182
Other <sup>(2)</sup> .....	94,829	28,032	66,797
Non-War establishments.....	867,438	145,024	722,414

(1) Includes federalized employees in public employment offices and employees in the transportation service of the War Department.

(2) Includes the Office of Emergency Management, Office of Censorship, Board of Economic Warfare, Office of Price Administration, Office of Strategic Services, and the Selective Service System.

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ment by the state unemployment insurance systems were at 386,000, the smallest total for any month on record. In October, 1942, receipts of claims for new spells of unemployment were 56.4 per cent lower than in the same month of the previous year. The average weekly number of benefit recipients ranged from 310,431 in October to 837,650 in February. Monthly data on claims or benefit payments are not an accurate measure of unemployment, even of insured workers, however, because in

many states the time for establishing a claim is in the spring, and by the end of the year an unknown number of claimants may still be unemployed although they have exhausted their statutory rights to benefit, which are limited to a specified number of weeks, varying from state to state. Nevertheless, both claims and payments during 1942 were at record low points as compared to previous years, reflecting directly the employment stimulus given by the war to this part of the labor market.

### CHILD LABOR

BY COURTENAY DINWIDDIE

GENERAL SECRETARY, NATIONAL CHILD LABOR COMMITTEE

#### CHILD LABOR AND THE WAR

On March 16, the Federal Children's Bureau set up a Commission on Children in Wartime to "consider urgent steps for the protection and welfare of children in emergency situations resulting from the war." A "Children's Charter in Wartime" was adopted by the Commission's 56 members. The text of the paragraph on School and Work reads as follows:

"It is essential that children and youth be sound and well-prepared in body and mind for the tasks of today and tomorrow. Demands for the employment of children as a necessary war measure should be analyzed to determine whether full use has been made of available adult man power and to distinguish between actual labor shortage and the desire to obtain cheap labor. The education and wholesome development of boys and girls should be the first consideration in making decisions with regard to their employment or other contribution to our war effort. This means that no boy or girl shall be employed at wages that undermine the wages of adult labor; none under 16 shall be employed in manufacturing and mining operations; none under 18 in hazardous occupations."

In a statement with respect to the

employment of children in wartime agriculture, the National Child Labor Committee stated, early in February:

"Every proposal for modifying school requirements in order to permit pupils to help temporarily in agricultural work should be considered strictly on the basis of facts, ascertained at the time, as to the alleged emergency, and should be authorized only after the State Farm Placement Service . . . has certified that sufficient adult labor is not available at reasonable wages.

"In no case should school pupils be employed because their labor can be secured more cheaply than that of adults.

"Temporary release of pupils from school for agricultural work away from the home farm, should be limited to those 14 years of age or over.

"School time lost . . . should be made up.

"Regulations, where any exist, controlling the use of children in agricultural work outside of school hours are so low throughout the country generally that there should be no occasion for relaxing them for emergency agricultural work."

On June 18-19 the Children's Bureau held a meeting of a Sub-Committee on Young Workers in Wartime Agriculture, organized under its

## CHILD LABOR

General Advisory Committee on Protection of Young Workers, at which a series of important recommendations and a significant statement of principle were drawn up.

### YOUTH IN NATIONAL DEFENSE

During the First World War, thousands of children in the United States cut short their schooling to go to work. In some communities the increase over pre-war years was as high as 100 per cent. In New York City alone, 50,000 boys and girls of 14 and 15 years started work in 1918. These children did not enter defense industries but found openings in all sorts of unskilled occupations which had no training value and were a poor substitute for the schooling they had abandoned.

By the spring of 1942, the upswing of employment for boys and girls under 18 was to a very large extent repeating the 1918 pattern. As young men of 18 and above went into defense plants or entered the army, they were replaced by young women from their age group and by a vastly increased number of boys and girls between 14 and 18. At first these young people fitted into the positions left vacant by the 18-19 age group. Some of them worked after school hours and on Saturdays, but a large number left school as soon as it was legally possible, to serve as cashiers, salesmen and salesgirls, waitresses, car-hops, delivery boys, elevator operators, newsboys, messengers, laundry workers, and pin setters in bowling alleys. The greater number were in jobs not covered by the provisions of the Fair Labor Standards Act. Even before December 1941, these jobs, low-paid in normal times, offered comparatively high wages because of the competition for workers. In a southern defense area, where wages are normally low, the pay for delivery boys increased from \$3 to \$12.

Industry, too, began to take advantage of exemptions in the child labor laws. In spite of efforts at strict enforcement on the part of the more conscientious officials, child labor

laws were openly evaded. During the summer an increasing number of 16 to 18-year-old boys and girls found work in defense plants. This left even more of the miscellaneous replacement jobs to be filled legally by children of 14 and 15 and illegally by those still younger. As in the First World War, such replacement work was unskilled and routine, with fair wages but no vocational opportunities. With the reopening of schools in the fall many of the employed young people, especially those above the minimum school-leaving age in states without a 16-year attendance law, were unwilling to give up well-paid work in order to resume their education. Employers, faced with a rapidly contracting labor market, were even more unwilling to lose young employees.

To date children under 16 are not wanted in defense plants nor allowed, under Federal laws, in manufacturing. These fields are rapidly being invaded by 16- and 17-year-old youth.

### WORK PERMITS

According to the United States Children's Bureau, 50,000 children of 14 and 15 years secured work permits in 1941, an increase of 80 per cent over the previous year. Of these, 6,000 left school for work. In the first three months of 1942—a period when schools were in session—there was an additional 50 per cent increase. In the one month of June, 1942, permits to 14 and 15-year-old children rose to 18,000. The percentage increase for the 16-17 age group in 1941 was over 100 per cent, the number of actual permits being 450,000. Another 100 per cent increase occurred in the first three months of 1942, when 80,000 certificates were issued, compared with 40,000 in the corresponding period of 1941. In the month of June, 1942, there were 82,000 certificates issued in this older age group.

Permit figures show only trends, not the actual number of young people at work, for permits are not required for all occupations in all



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states, and most states do not require them for minors of 16 and 17 years.

### CHILD LABOR AND WARTIME AGRICULTURE

Because of our entry into the war, the Thomas-LaFollette bill (S 2057) received no consideration during the second session of the 77th Congress. This bill would have brought children employed in agriculture away from the home farm under the provisions of the Fair Labor Standards Act. Under it there would have been a 16-year age minimum for children employed in agricultural occupations, except those working for their parents on the home farm, with employment outside of school hours permitted at 14 years under conditions determined by the Children's Bureau.

During the winter of 1941-42 New York and New Jersey recognized the importance of agriculture in the winning of the war by passing the Young-Milmoe and the Henderson acts respectively. Both acts authorize the release of pupils 14 years old or over from school for work in the harvesting of crops. The Young-Milmoe Act, which is good until July 1, 1943, permits a 30-day release in New York State, 15 days in the fall and 15 in the spring. It contains no specific provision for personnel or central responsibility on the state level in administering the act. The Henderson Act, under careful state safeguards, permits a 15-day release, need for which is to be determined by a State Student Service Commission and County Commissions, whose members are drawn from interested organizations, both governmental and civil.

During the summer and fall, the Federal Children's Bureau and the National Child Labor Committee investigated the working of both these laws. In spite of a lack of coordination and uniformity of standards in administration, particularly in New York, farmers in the two states agreed that student labor had materially aided in saving the year's bumper crops. In individual in-

stances, as in projects for recruiting children for farm work from Rochester and Jamestown, N. Y., and from other cities, local officials or agencies, on their own initiative, carried out some well planned projects, resulting in careful placement, supervision, and transportation.

In states which have no laws comparable to those of New York and New Jersey, local administration of school release for crop harvesting has varied widely. In Prince William County, Virginia, with the cooperation of the county agent, school officials, the parents, and farmers, a smoothly operating plan was of great benefit, yet no student missed more than five days of school. In a survey conducted in the winter of 1941-42 by the National Child Labor Committee, 26 states reported varied measures by which they had met the 1941 agricultural emergency. Some schools opened late, some closed early, some suspended classes for a few weeks in the fall or spring. Others curtailed Christmas or Easter holidays, held Saturday classes or lengthened the daily schedule. In five states school sessions were held from 8:00 or 8:30 to 12:30 or 1:00 each day, leaving the afternoons free for farm work. Reiterated emphasis on the fact that dismissals must be determined by local need stresses the real crux of the problem. Policies varied repeatedly within states, particularly within those with as great geographical differentiation as exists within New York or Texas.

### SUMMER FARM PROGRAMS

Destined to be one of the most influential factors in adding children to the available manpower resources in the cultivation of crops is the Victory Farm Battalion, proposed by the Office of Education. This represents an interesting effort to organize children and young people for agricultural work both during the school term and during summer vacations. In 1942 there were various summer farm programs for student workers, notably the Volunteer Land Corps sponsored by Dorothy Thompson, and such or-

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ganizations as the Farm Cadet Plan in New York State. A successful adjustment was made in a large majority of cases, between employing farmers and student workers. With smaller groups of employees (four students or less) greatest success was reported. In some of the larger camps, lack of proper selection and supervision hampered effective results. In a few cases fights between rival groups and near-riots disrupted projects entirely or in part. Such extreme instances, when investigated, were almost always caused by improper supervision, and by mixing groups of school children with older boys.

### **VIOLATIONS OF THE WAGE-HOUR ACT**

During the year ended June 30, 1941, violations of the Fair Labor Standards Act doubled. Inspections revealed that 579 establishments were employing or had employed 1,761 minors in violation of the child labor provisions of the Wage-Hour Act. The great majority—1,647 children—were under 16 years; the remainder were 16 and 17-year-old youths working in violation of the three hazardous occupations orders in effect at that time. Of the workers under 16 years, 31 per cent were under 14 and 12 per cent were eleven or younger. More than half of the illegally employed children were in canning and packing establishments, peeling vegetables, sectionalizing fruit, heading shrimp, shucking oysters, etc. A preliminary report indicated that violations in 1942 were double the 1941 number. In October, the Children's Bureau stated: "The reports of the child labor inspectors during the spring and summer of 1942 bear a disquieting resemblance to the findings of a generation ago, when it was common to find large numbers of young children working long hours under unhealthful conditions." Among the instances cited were a cold storage plant where 24 children, 10 to 15 years old, were capping strawberries from 3 a.m. to 7 a.m. and then attending school. In tomato canneries

children as young as 8 years were working until 11:30.

State labor authorities reported great difficulties in child labor enforcement. In Illinois, 11-year-old girls were working as waitresses. At a root beer stand in Topeka, Kan., a girl worked for 14 hours. A 13-year-old New Jersey boy, working in a butcher shop, was impaled on a meat hook.

### **CHILD LABOR IN DEFENSE AREAS**

Particular laxity was found in defense areas and in the vicinity of army camps. There was a 60 per cent increase in application for work permits for children between 14 and 16 in Alexandria, La. where three army camps are located. Until the gas shortage began many girls of 16 or younger served as car-hops and were paid only in tips. Among cases of child labor was that of a 14-year-old girl hired by a photographer to attract soldiers, who would pose with their arms around her or with her in their laps. When business lagged it was the girl's job to find soldiers and bring them in on a commission basis.

### **NATIONAL LEGISLATION**

Although no new Federal legislation was enacted in 1942, several bills relating to the employment of children and young people were proposed. The Thomas-LaFollette bill has already been mentioned. A destructive break-down bill (HR 7350) passed the House but fortunately still languishes in Committee in the Senate. This bill would suspend for the duration of the war, the provisions of the Sugar Act, which set a minimum age of 14 years and an 8-hour day for minors 14 to 16 years in that industry.

### **STATE LEGISLATION**

Although only a few state legislatures were in session, child labor bills were considered in six states. There were one or two definite gains, a few temporary concessions, and a number of undesirable bills defeated.

Most important of the measures

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enacted was a new child labor law in Louisiana, which sets a general age minimum of 18 years for employment during school hours and 14 years at other times. It requires employment certificates for minors under 18 years, establishes an 8-hour day, 44-hour and 6-day week, restricts night work, and forbids employment in hazardous occupations under 18 years. Agriculture and domestic service are exempt from all regulations.

Following a disclosure that 16-year old attendants were being employed in a state hospital for the insane, New York set an 18-year minimum age for custodial care of inmates of mental hygiene and correctional institutions. Another law simplifies the permit procedure for children 14 to 16 engaged in farm work during vacation periods. The New York law, permitting suspension in war industries of the labor law relating to hours and night work, specifically excludes any relaxation for minors under 18.

Two states amended their laws relating to children appearing on the stage. Louisiana, which heretofore granted permits to children of any age, established a 14-year minimum except for traveling companies, where special permits may be obtained if not more than eight performances are given in a week. Virginia, which previously prohibited any appearance by boys under 16 and girls under 18, now permits children under these ages to appear if the management secures a permit from the Commissioner of Labor. A New York bill, which did not greatly alter existing standards, was defeated. The District of Columbia child labor law has also been amended to permit children to appear on the stage at 14 years, providing they have completed the eighth grade and do not appear more than 3 hours a day. Heretofore, by virtue of the night work provisions of the child labor law, no person under 18 years could appear on the stage in Washington, D. C.

Break-down bills were defeated in several states. In California a reso-

lution was placed "on the record" urging an extra session of the Legislature to permit legislation authorizing local school boards to close or postpone the opening of schools and to set conditions and hours during which children may be employed. The Governor did not act on this suggestion. In Pennsylvania, measures to permit local school boards to suspend provisions of the school term, the number of school days a week, acceleration of promotions and graduation, closing of schools and issuance of farm and domestic employment certificates died in both Houses. In New York the Governor vetoed a measure to lower from 14 to 12 years the age for farm employment during the summer and also a bill which would increase the difficulty of enforcing the 18-year minimum for entertainers on premises where liquor is served. A measure to permit the employment of minors 16 to 18 in bowling alleys until 3 a.m. died in the Assembly. Two of New Jersey's break-down bills, several of which are still pending, authorize the Governor to suspend provisions of the child labor and compulsory attendance laws; one would permit school boys 15 to 18 years to work in bowling alleys until 12:30 a.m.; another would permit children 16 to 18 years to be employed during the summer vacation without work certificates and until midnight in resorts bordering on the Atlantic Ocean, including establishments selling alcoholic beverages.

### CHILDREN'S BUREAU ORDERS

The chief of the U. S. Children's Bureau is authorized by the Wage-Hour Act to exclude 16 and 17-year-old youth from particularly dangerous jobs. Because of wartime exigencies, in several instances, requests have been made for relaxations of hazardous employment already or about to be issued. The ruling excluding minors from most employment in the lumber industry has been slightly modified to permit 16- and 17-year-old boys to work for the duration in certain jobs outside the saw-

## CHILD LABOR

mill proper. Similarly a ruling has permitted the employment of children 14 and 15 years of age during summer vacation periods in the dried fruit industry under certain regulations as to hours, sanitary conditions, etc. An amendment is also proposed to the order concerning the operation of wood-working machines, exempting apprentices in war industries if such employment is incidental to their apprenticeship training. A new order establishes an 18-year minimum age for employment in occupations involving exposure to radio active substances.

### ADDITIONAL 1940 CENSUS FIGURES

The 1940 Census figures continue to come in slowly. The only figures for the country as a whole as yet available are based on a 5 per cent sampling of returns. These give, by age groups, the number of children 14 to 18 years in the labor force, in rural-farm, rural non-farm, and urban areas, and in general geographical divisions. Figures giving occupational classifications by age groups have been received to date from 32 states.

Figures on school attendance are now complete. Eighty-two per cent of the 16 and 17-year-old minors who were not in the labor force in 1940 (excluding those unable to work or in institutions) were in school. The majority of the others were engaged in "own housework." In 47 states (leaving out of consideration Kentucky where school attendance was not adequately reflected in the 1940 Census), attendance from the 7- to 13-year group varied from a high of 98.3 per cent for urban children in Wisconsin to a low of 76.3 per cent for rural-farm children in Arizona. Two out of every hundred were out of school in Wisconsin and 24 out of every hundred in Arizona. For the 14-15-year age group, attendance ranged from 97.6 per cent for urban Wisconsin to 75 per cent for rural farm areas in Georgia (87.8 per cent for white and 69.2 per cent for Negro). For young people of 16 and 17

years, differences were even more marked, ranging from 91.4 per cent in attendance in urban Wisconsin to 48.3 per cent in rural Georgia (52.5 per cent for white and 36.1 per cent for Negro.)

### CHILD LABOR INVESTIGATIONS AND PUBLICATIONS

Most important of the publications issued by the National Child Labor Committee in 1942 are:

*Job Brokers—Unlimited*, a pamphlet used in connection with the Tolan Bill to license and regulate employment agencies in interstate commerce.

*Children Who Work on the Nation's Crops*—an illustrated pamphlet summarizing information about child labor in agriculture.

*How Good Is the Good Earth, A Venture in Rediscovery*—a discussion of the Farm Security Administration. *Child Workers in Wartime*—a summary of the effects of the war on child labor, both in industry and agriculture.

Reports on the release of children from school under the Young-Milmoe Act and a joint report of a similar nature done in conjunction with the New Jersey State Student Service Commission are being prepared for limited circulation. In preparation are also reports as to "cotton retardation" in selected schools of Missouri, Alabama, and Georgia.

Publications of the Children's Bureau during the fiscal year include:

*A Children's Charter in Wartime*  
*Safeguarding Young Workers in Wartime Agriculture*—report of Conference on Supervision and Employment Conditions for Young Workers in Wartime Agriculture, June 18-19, 1942.

*A Study of 342 Families of Agricultural Laborers in Hidalgo County, Texas.*

*Studies in Three Urban Communities* (Elizabeth, N. J., Tulsa, Okla., and Richmond, Va.)

The Connecticut State Labor Department has published a brief report on *Working and Living Conditions*



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*on Connecticut Tobacco Plantations. Summer 1942.*

The New York State Labor Department published in its *Industrial*

*Bulletin* for March 1942 an article on "Increases in Child Labor in 1940-41."

### PERIODICAL PUBLICATIONS

#### *American Child (The)*

419 Fourth Ave., New York, N. Y.  
*American Federation of Labor Weekly News Service*

9th and Massachusetts Ave., N.W.,  
Washington, D. C.

#### *American Federationist (The)*

9th and Massachusetts Ave., N.W.,  
Washington, D. C.

#### *American Labor Legislation Review*

131 E. 23d Street, New York City.  
*Child (The)*

Children's Bureau, Department of  
Labor, Washington, D. C.

#### *C.I.O. News (National Edition)*

718 Jackson Place, N.W., Washing-  
ton, D. C.

#### *Conference Board Management Record (The)*

247 Park Ave., New York City.

#### *Economic Outlook (C.I.O.)*

718 Jackson Place, N.W., Wash-  
ington, D. C.

#### *Farm Labor Report*

Bureau of Agricultural Economics,  
Department of Agriculture,  
Washington, D. C.

#### *Federal Employee (The) (N.F.F.E.)*

10 Independence Ave., S.W., Wash-  
ington, D. C.

#### *International Labour Review*

International Labour Office, Mont-  
real, Canada.

#### *Labor (railroad unions)*

10 Independence Ave., S.W., Wash-  
ington, D. C.

#### *Labor Information Bulletin*

Department of Labor, Washington,  
D. C.

#### *Labor Notes*

80 E. 11th Street, New York City.

#### *Labor Relations Reporter*

2201 M Street, N.W., Washington,  
D. C.

#### *Labor's Monthly Survey (A.F.L.)*

9th and Massachusetts Ave., N.W.,  
Washington, D. C.

#### *Monthly Labor Review*

Bureau of Labor Statistics, Depart-  
ment of Labor, Washington, D. C.

#### *Social Security Bulletin*

Social Security Board, Federal  
Security Agency, Washington,  
D. C.

#### *Survey Graphic*

112 E. 19th Street, New York City.

#### *Union News Service (C.I.O.)*

718 Jackson Place, N.W., Washing-  
ton, D. C.

#### *United Mine Workers Journal*

United Mine Workers Bldg., Wash-  
ington, D. C.

#### *Victory (formerly Defense)*

Division of Information, Office for  
Emergency Management, Wash-  
ington, D. C.

#### *Wage and Hour Reporter*

2201 M Street, N.W., Washington,  
D. C.

#### *Wage Statistics of Class I Steam*

*Railways in the United States*

Interstate Commerce Commission,  
Washington, D. C.

#### *W.P.A. Statistical Bulletin*

Work Projects Administration,  
Federal Works Agency, Washing-  
ton, D. C.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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AMERICAN ASSOCIATION FOR LABOR LEGISLATION, 131 E. 23d Street, New York City.	LABOR RESEARCH ASSOCIATION, 80 E. Eleventh Street, New York City.
AMERICAN FEDERATION OF LABOR, American Federation of Labor Bldg., 9th and Massachusetts Ave., N.W., Washington, D. C.	LEAGUE FOR INDUSTRIAL DEMOCRACY, 112 E. 19th Street, New York City.
CONGRESS OF INDUSTRIAL ORGANIZATIONS, 1106 Connecticut Ave., N.W., Washington, D. C.	NATIONAL FEDERATION OF FEDERAL EMPLOYEES, 10 Independence Ave., S.W., Washington, D. C.
INTERNATIONAL LABOR OFFICE, 3480 University Street, Montreal, Canada.	RAILWAY LABOR EXECUTIVES ASSOCIATION, 10 Independence Ave., S.W., Washington, D. C.
	UNITED MINE WORKERS OF AMERICA, United Mine Workers Bldg., Washington, D. C.

## DIVISION XVII

### RELIGION AND RELIGIOUS ORGANIZATIONS

#### PROTESTANT DENOMINATIONAL ACTIVITIES

BY WINFRED E. GARRISON

PROFESSOR OF CHURCH HISTORY, UNIVERSITY OF CHICAGO

##### THE CHURCH ON A WAR FOOTING

The lines to be followed by the churches during the first year of war, in adjusting their attitudes and programs to conditions in which the fact of war is the determining factor, were already indicated by utterances and acts within the first month after Pearl Harbor. These were sketched in the article on this subject in *THE AMERICAN YEAR BOOK* for 1941.

In preceding years, church opinion as voiced in the resolutions adopted by the principal denominational conventions and assemblies, and as voiced in the religious press and in the pulpit, had in the main kept faith with the Kellogg-Briand Pact of Paris in which the nations of the world, with scarcely an exception, had united to "renounce war as an instrument of national policy." To a more persistent faith in the possibility of permanent peace than was entertained in most secular circles, many of these religious voices had added their own denunciation of war as "sin," regardless of the cause for which it might be waged, though it may be doubted whether this latter conception had won much acceptance among more than a small minority of the laity. This commitment to other than military means of adjusting international frictions predisposed the religious mind to the belief, even up to the verge of actual hostilities, that war was not inevitable, and that peaceful means, at least non-participation in actual hostilities, would

serve best both for the defense of the national interests and for rendering the greatest service to the cause of justice and freedom throughout the world.

Though this conviction as to the justification and the possibility of avoiding American participation in the war had a special coloration and motivation for those who cherished religious sanctions for the non-violent way of national life, it must be seen not as a pacifistic idiosyncrasy of the churches but as part of a much more general body of opinion both in America and elsewhere. Long after Dunkirk, Prime Minister Churchill was still saying, "Give us the tools and we will finish the job"—and the churches had been, on the whole, in favor of giving them the tools under the lend-lease arrangement. The published *Letters of an English Soldier*, originally addressed to an American friend and widely circulated in this country, had urged passionately that America stay out of the war so that there might be at least one place of peace and normal living in the world to serve as a nucleus for post-war reconstruction. At a meeting of eminent political scientists, also long after Dunkirk, a straw vote showed only two out of 40 favoring immediate intervention. The President had urged lend-lease on the ground that it was not a step toward war but a means of keeping out. Church bodies which praised the President in May 1941 for "keeping us out of war" were saying only what his supporters had

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been saying for him and what he had been saying for himself in the campaign of November 1940. If the churches lagged in accepting the inevitability of war before the event, they did not lag much. The concept of the "immorality of neutrality" arrived almost as late on the political as on the religious scene.

The churches did not lag at all in recognizing that the war, when we had been catapulted into it, created a *de facto* situation which imposed upon them heavy responsibilities. Since Dec. 7, 1941, many harsh words about "war" have issued from pulpits and church gatherings, but no expressions of opposition to the prosecution of this war. Responsible religious leaders, however, and the churches themselves when they spoke through their national assemblies in 1942, took pains to distinguish between serving a nation which had been thrust into an unwanted war and approving or "blessing" war.

Within a few days after Pearl Harbor, the presidents of the Federal Council of Churches of Christ in America, the Foreign Missions Conference, and the Home Missions Council issued a joint statement recommending an attitude of "Christian composure" under this sudden stress and the avoidance of a spirit of vengeance toward the Japanese in America. Before the end of December 1941, the executive committee of the Federal Council published a general letter to all churches, stressing the threefold responsibility of American Christians—as loyal citizens of the nation, as members of churches which must minister to a people under the burdens of war, and as members of a world-wide church which, in war as in peace, must hold in one fellowship the peoples of all nations and races. Nothing was said about any duty of the church as such to "get behind the government" or to "support the war effort," but a Coordinating Committee for Wartime Service was set up, including commissions to deal with the chaplaincy, relief, service to military camps and new industrial communities, con-

scientious objectors, and the study of "the bases of a just and durable peace."

When the major denominational bodies began to have their meetings in May and June, there had been time for the increasing grimness of the national mood to register its demand that the churches commit themselves to a more positive support of the war effort, but also for the churches to fortify themselves against temptations to action outside of what they deemed their proper sphere. Some of their statements will be mentioned in connection with the treatment of the several denominations, but the record must include at this point the comprehensive and deliberate formulation adopted by the plenary session of the Federal Council of Churches at its biennial meeting, held in Cleveland, O. in December 1942. While asserting that "as Christians we take our stand not as the mouthpiece of any national cause but as members of a world-wide fellowship," the Council declared that the avowed aims of the Axis powers are "not merely unchristian; they are positively anti-Christian. They frankly repudiate the best elements that Christianity has contributed to the shaping of civilization." Therefore, the present war is not to be regarded as "merely a conflict between national self-interests or rival imperialisms," but as one in which "the Christian church has a vital and inescapable concern," not because the Christian goals of freedom, justice and brotherhood would become wholly impossible in case of an Axis victory, and not because a victory for the Allied nations would guarantee the achievement of Christian goals, but because "the external conditions will be vastly more favorable to working for Christian social objectives in the event of the military success of the United Nations than in the event of their defeat." In this limited sense and subject to the cautions implied in the sentence above, it may be said that the Federal Council declared our side to be the side of the angels. Even



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with its limitations and its cautious wording, the Federal Council's statement went farther than the resolutions adopted only a few months earlier by the major denominations represented in the Federal Council.

### PACIFISM NO LONGER AN ISSUE

All that needs to be said of pacifism in the churches can be said almost parenthetically. It has ceased to be an issue. This is not to say that former convinced pacifists have abandoned their conviction, or that the avowedly pacifist denominations have altered their position. A simple analysis of the facts about pacifism during the year may be helpful.

The larger denominations which, in the inter-war years, were renouncing war and were training their young people in no-more-war principles, but which had never in any sense made pacifism an article of faith, have followed the line indicated by the declaration of the Oxford Conference on Life and Work (1937). This had recognized the existence of both pacifists and non-pacifists in the church and had asserted that they must learn to live together on terms of mutual tolerance. These churches have impartially served the army camps and the Civilian Public Service Camps, and have not only made formal pronouncements demanding that the rights of conscientious objectors be respected but in some cases have taken action to see that they were respected. With only a few exceptions, and these generally when outside pressure has been strong, have pacifist ministers been undisturbed. There turned out to be not so many of them as might have been expected, and their courage has generally been tempered by discretion.

The avowedly pacifist churches—the Friends, Mennonites, and Church of the Brethren—have refrained from opposing the war effort and have assumed heavy responsibilities in the support and administration of the Civilian Public Service camps for conscientious objectors of their own communions and others.

Organized Protestant pacifism,

apart from the churches just mentioned, has been for the most part faithful to its previous commitments but not militant. The Fellowship of Reconciliation announced in May that its membership had suffered no net loss during the preceding 12 months and that accession of new members was about normal. It had long since advised young men to register under the Selective Service Act. In December 1941 it declared on behalf of its members continued "refusal, in so far as we are free to determine our course, to take any part in war measures," but it has pursued no obstructionist tactics. The War Resisters' League also reaffirmed its principles and at the same time disavowed any intention of hindering the war effort. The Ministers' No War Committee has suspended pacifist propaganda.

Individual pacifists who have not received deferment, or have refused to accept it, have gone to the Civilian Public Service camps, which are supported by voluntary contributions. At the end of October there were 4,739 men in 58 C.P.S. camps, 672 men under assignment, 110 on detached service on farms, in administrative projects or on special details, and 161 in hospitals. A month earlier, when the number in camps was only slightly less, the denominational distribution (as given by Dr. H. A. Brandt, representative of the Church of the Brethren) was as follows: Mennonites, 1,799; Brethren, 552; Methodist, 369; Friends, 364; Jehovah's Witnesses, 123; Presbyterian, 107; Baptist, 97; Congregational-Christian, 96; Churches of Christ, 68; Roman Catholic, 65; Evangelical and Reformed, 55; Protestant Episcopal, 47; Disciples of Christ, 40; Christadelphian, 33; Evangelical, 28; Church of God, 25; while nearly 100 other religious groups had less than 25 each. Some C.O.'s, who carried their opposition to what they call the "war system" (as well as to war) to the extent of refusal to register, have received prison sentences of from one to four years, but most of these cases had already been taken care of before

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the beginning of hostilities. There have been few, if any, martyrs of pacifism in this war.

The moral energies of pacifism have been directed chiefly to useful forms of public service, relief, and the study of the conditions of a just and durable peace. The most notable Protestant contribution to the study of the conditions of a just and durable peace was made by the conference held at Delaware, O. March 3-5, 1942 under the auspices of the Federal Council of Churches. The 13 points of its "statement of guiding principles" and the elaboration of these principles in its manifesto blazed trails for thinking through the problems of post-war reconstruction.

### DEFENSE OF CIVIL LIBERTIES

The churches have no monopoly on devotion to civil liberty, but they are at least among the more important agencies by which it is safeguarded and among the groups most sensitive to infringements of it. This holds good with reference to secular liberties as well as to those special aspects of civil liberty which are designated as religious liberty. During the year the voice of religion, and of the religious press perhaps more often than that of the great denominational conclaves, has been raised in protest against threatened encroachments upon individual liberty beyond the apparent necessities of the national emergency. Churches in many communities on the West Coast have not only expressed their sympathy with the Japanese citizens who were indiscriminately evicted but in many cases actively befriended them. There were 80 Protestant Japanese churches with 17,500 members in the area from which both aliens and citizens of Japanese origin were removed. A Protestant commission, with headquarters at Berkeley, Calif. was organized for wartime service to Japanese in the United States. There have been many protests against the policy of evacuation as it has been carried out, and disregard of the civil rights of American-born citizens of Japanese ancestry has aroused more

disinterested concern in church circles than elsewhere.

That troublesome sect known as Jehovah's Witnesses constantly denounces the churches as well as the Government with a degree of vehemence which might seem to invite reprisals from both. Protestant opinion, in so far as it has found expression, has, however, been more critical of the treatment that has been given them by courts, legislatures, and mobs than of the Witnesses themselves. Their national convention (New World Theocratic Assembly), held at Cleveland in September with 20,000 in attendance, was not accompanied by the expected disorders, but at various times and places (*e.g.*, in Illinois, Arkansas, and Oregon) their operations have been interrupted by mob violence. Refusal to salute the flag is the most frequent point of conflict. In 1940 an eight-to-one U. S. Supreme Court decision upheld the legality of the compulsory flag-salute in schools, in a Pennsylvania case involving Witnesses. In 1942 the Court sustained local ordinances in Alabama, Arkansas, and Arizona designed to bring the Witnesses under civil control by requiring distributors of religious literature to secure a special license which was to be granted or revoked at the discretion of the licensing officer. Three members of the Court who had voted with the majority in the first of these decisions voted with the minority in the second to make it a five-to-four decision, and stated that they now believed that both rulings were unconstitutional infringements of civil and religious liberty. Thoughtful churchmen have watched with concern and apprehension these questionable devices for curbing a group that is unquestionably a nuisance.

### RELIEF WORK

The involvement of the United States in the war at once heightened the need for relief work in the interest of those directly or indirectly made the victims of war, and restricted the area in which such work was possible. Activities in German-

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dominated countries of Europe were necessarily suspended, but new fields were opened, and old ones were cultivated more intensively, though needs have increased faster than funds or workers. The Quakers established a "Burma Road Unit" to carry relief to west China, and have served the dislocated Japanese in the United States, besides carrying on many other like enterprises in their characteristic way. The Y.M.C.A. has done much to improve the lot of prisoners of war. Emergency service for women in China, the Philippines and the Dutch East Indies was furnished by the Y.W.C.A. as long as these fields were accessible. The Church Committee for China Relief has coordinated efforts for that suffering and needy nation. The principal denominations have raised large special funds for relief work. In their wartime emergency campaigns, this cause has been linked with that of doing religious work in communities adjacent to army camps and in the new industrial communities that have sprung up around war plants, and with the support of orphaned missions of the prostrate European churches.

The sudden mushrooming of new cities or suburbs in the vicinity of war plants and the migration of many thousands of workers to fill them—sometimes the migration of the worker first and the provision of housing for them afterward—created a new type of frontier in which the churches were not slow to see that they had a duty to perform. In some places, notably in the "larger parish" at Baltimore and at Willow Run, near Detroit, the weakness inherent in denominational separateness under such a peak load of responsibility was minimized by the close cooperation of many churches and boards in the development of concerted programs.

The foreign missionary problem, always one of the major concerns of the churches, has been radically modified by the closing of many mission fields which have been overrun by war, by the difficulty of travel to

and from those fields where work can still be done, by the complexity of the economic and social situations in which both Christian nationals and the missions are involved, by the complete cessation of support for missions of the European churches, and by the impact of the war upon the American churches. Financial support for American missions has been sustained surprisingly well, but the enterprise itself has had to undergo extensive reconstruction. In spite of all this, it is apparent that the missionary interest of the American churches is not only undiminished but has been stimulated by a new awareness of the kinship of all peoples and a sense of the responsibility of Christians for the new world that is to be.

### MOVEMENTS TOWARD UNION

A proposed union of the Evangelical Church and the United Brethren has advanced so far toward completion that it awaits only the final and formal vote of ratification, which well informed representatives of both bodies believe it is certain to receive. Not quite so close to consummation is the project of union between the Congregational-Christian Churches and the Evangelical Reformed Church, but the plan that has been drawn up has received favorable consideration from the two bodies and no serious obstacle is apparent. Each of these denominations in its present form is the project of a fairly recent and wholly satisfactory merger of two components. One of these mergers was completed in 1931, the other in 1934. The Swedish Methodist Conference has been dissolved into the Methodist conferences of the areas in which it was represented. The joint commission of the Protestant Episcopal Church and the Presbyterian Church in the U. S. A. has reached agreement upon the form of a concordat which is designed to govern not a union but a plan of limited cooperation between these two bodies, and the text of the instrument has been published. In both churches there are strong opinions for



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and against the arrangement, and there is no imminent prospect of its adoption.

### ADVENTISTS

The Seventh-Day Adventists, whose General Conference has headquarters at Takoma Park, Washington, D. C., are outstanding for the extent of their missionary work throughout the world and the generosity of its support. With a total membership of 191,333 in the United States and Canada at the time of the latest complete statistics (Dec. 31, 1941), the "tithe receipts" for the year amounted to \$6,743,275. Offerings for foreign missions total more by 60 per cent than those for home and local church work. It is reported that work is being done in 413 countries, islands, and island groups, involving the use of 810 languages. Emphasis is placed on evangelistic work (13,899 workers), publication (3,106 colporteurs, book and periodical sales for the year \$4,275,853), church and mission schools, and medical work (163 sanitariums, hospitals, etc.).

### ASSEMBLIES OF GOD

Coordinating the activities of various independent "Pentecostal" groups which had arisen shortly before and after 1900, the General Council of Assemblies of God was formed in 1914 at Hot Springs, Ark. Its present offices are in Springfield, Mo. Its characteristics are "intense evangelistic fervor, emphasis upon spiritual gifts and operations, including divine healing and the speaking in other tongues as a sign of the reception of, or baptism in the Holy Spirit, and a profound conviction of the imminent return of the Lord Jesus." A General Superintendent and an Executive Presbytery give general supervision to the work of 35 district councils in the United States. Statistical reports are compiled biennially. The latest show that in the two years ended July 31, 1941, the membership had increased from 184,022 to 209,549, the number of "assemblies" from 3,496 to 4,348, and the list of ministers from 3,592 to 4,159. The weekly periodical,

*Pentecostal Evangel*, is rated as having a circulation of 70,000. In the period covered in this report, missions were conducted in 43 countries, and contributions for home and foreign missions were more than \$1,000,000.

### NORTHERN BAPTIST CONVENTION

As of April 30, 1942, there were 1,543,932 members in 7,415 churches. During the year, accessions by baptism were 52,970, gifts to missions, benevolences and education were \$2,731,562, and the expenses of local church operations totaled \$16,797,697. Work in 18 foreign countries employed the services of 463 missionaries and 9,858 native workers, and included the maintenance of 30 hospitals, 66 dispensaries, 3,858 schools of all grades, and 3,559 churches with 408,806 members. On this foreign work the expenditures for the year were \$1,355,228, including the income from permanent funds of \$12,782,844. The Home Mission Society and the Woman's Home Mission Society were active in church extension, community, and Americanization work, camp service, evangelism, and education. These two societies have assets of more than \$21,000,000 and expended over \$1,000,000 in 1941. The Board of Education represented the denomination's interest in its schools and colleges, directs missionary education, conducts missionary reading circles (300,000 readers), and supports youth organizations. The Ministers and Missionaries Benefit Board provides pensions and relief for aged ministers and their dependents. It now has 3,040 enrolled in its pension plan, and in 1941, it paid \$533,837 in pensions and \$221,182 in other relief grants.

Important interests of the denomination have been in a campaign for church extension to meet the needs of new industrial centers, in relief measures for war sufferers everywhere, and in plans for greatly increased endowments for Baptist schools and colleges after the war. During 1942 Brown University, the oldest and most famous Baptist in-



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

stitution in the country, by vote of its own corporation ceased to be distinctively Baptist.

### **SOUTHERN BAPTIST CONVENTION**

Southern Baptist churches numbering 25,603 had 5,238,132 members, as of Dec. 31, 1941. This was a net gain of 344 churches and 133,805 members during the year. For missions and benevolences the 1941 receipts were \$7,822,340; for local church work, \$37,035,267. Church property has reached \$232,944,315 in value. The indebtedness of the boards has been reduced from \$6,300,000 in 1933 to \$1,750,000 in May 1942, and it seems certain that it will be liquidated before the meeting of the convention at Memphis in May 1943. All departments of work have shown notable progress except foreign missions, which have encountered the difficulties inseparable from war.

Special attention has been given to the development of a post-war program, for which a strong committee has been appointed with H. H. Hargrove as chairman. Southern Baptists joined with Baptists of the world in celebrating the sesquicentennial of the Baptist Missionary Society in England on Oct. 2. They will celebrate their own centennial at Augusta, Ga. in 1945, and are making great preparations for a joint meeting with the Northern Baptist Convention in 1944.

### **NATIONAL BAPTIST CONVENTION, U. S. A.**

This organization of Negro Baptists has more than 4,000,000 members, mostly in the South. For the training of its ministers it conducts the American Baptist Seminary at Nashville, Tenn.

### **CHURCH OF THE BRETHREN**

The annual conference held at Ashville, N. C., June 10-16, 1942, was listed as the 156th, but actually it marked the bicentennial of the first general conference of the Church of the Brethren, which met in 1742. It is one of the three historic peace

churches which are bearing the major responsibility for maintenance and administration of the Civilian Public Service camps. During 1942 this church spent \$350,000 in support of these camps, a sum larger by about \$100,000 than its regular budget for general church work. The latest statistics (Sept. 30, 1941) show 1,019 congregations, with 178,271 members, served by 255 full-time and 459 part-time ministers.

### **CONGREGATIONAL-CHRISTIAN CHURCHES**

The General Council met at Durham, N. H. June 18-24, 1942. Healthy progress of all departments was reported. Debate centered on the relation of the church and Christians to the war. It was voted: "We hold that this democratic ideal affords the best opportunity for Christianity to do its work in the world. This freedom of opportunity, now menaced by totalitarianism, must be maintained." The existence of both pacifist and non-pacifist attitudes within the church was recognized, and neither was condemned. Avoidance of hatred, study of the bases of just and durable peace, and aid for war victims were urged. Points of emphasis in the life of the denomination have been the enlistment of its quota of chaplains, assistance to churches in following with a Christian ministry their men who are in the service, and the raising of a fund for war sufferers and services. Total membership is reported as 1,067,429, an increase of 8,532; churches 5,946, a decrease of 61. Expenditures for missions and benevolences during the year were \$2,228,807; for support of local churches, \$15,073,418. Church property is valued at \$166,858,176, with debts of \$8,097,078, and endowment funds of \$26,107,089.

### **DISCIPLES OF CHRIST**

The International Convention, scheduled to be held in Oakland, Calif. in August 1942, was transferred to Grand Rapids, Mich., where it met in July. The preceding convention, in May 1941, had adopted resolutions

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in praise of the President for keeping us out of war. The Grand Rapids convention accepted the fact of war and the responsibility of the church for ministering to soldiers, civilians, and sufferers, but declined to make any commitments which would imply "blessing" the war or identifying the nation's cause with the cause of God. The "emergency million" campaign for war work, relief, and liquidation of debts, did not reach its goal by June 30, 1942, and the time was extended one year. Up to December 1942, \$805,000 had been raised. As of June 30, 1942, world membership was 1,826,434, a loss of 8,128 for the year. Baptisms numbered 54,166. Contributions in the United States and Canada for missions and benevolences were \$4,558,754, a gain of \$299,728.

### EVANGELICAL CHURCH

At the General Conference of the Evangelical Church, which met at Naperville, Ill. Oct. 7-16, 1942, the following statistics were reported: membership 248,475; overseas membership 56,000; churches 1,983; itinerant ministers 1,623. Contributions for all purposes totaled \$5,802,752. Thirty chaplains are in the services. The conference voted approval of the plan for a merger with the United Brethren in Christ, subject to favorable action by the general conference of this group and the district conferences of both.

### EVANGELICAL AND REFORMED CHURCH

This church was the product of a merger of the Evangelical Synod of North America and the Reformed Church in the United States in 1934. The biennial meeting of the General Synod was held in Cincinnati June 24-July 1, 1942. The new *Book of Worship* was adopted and the new *Hymnal* was declared as completed. These are completely new books, not revisions of the old ones. Plans are under consideration for union with the Congregational-Christian Churches, but no definite action has yet been taken. The committee on army and navy chaplains and the

committee for camp communities (including the new industrial communities) have coordinated their work in a Bureau for Men in Service. The War Emergency Relief Commission had raised a fund of \$100,000 before Jan. 1, 1942, and \$90,000 more has been contributed (as of Nov. 10) toward a second fund of \$150,000. The Japanese in America and the Bureau for Men in Service have been added to the previous objects of this appeal. The church had 662,953 communicant members, 2,423 ministers, and 2,850 congregations at the end of 1941. Its contributions were \$1,479,388 for missions and benevolences, and \$9,200,626 for congregational expenses.

### LUTHERAN CHURCHES

Lutherans in the United States are organized in three principal groups: American Lutheran Conference, Synodical Conference, and United Lutheran Church. The first of these includes the American Lutheran Church, Augustan Synod, Lutheran Free Church and Norwegian and Danish Lutheran Churches. The second embraces the Synod of Missouri and other states, the Synod of Wisconsin and other states, and three smaller groups. The National Lutheran Council is a cooperative agency for the United Lutheran Church and the constituent churches of the American Lutheran Conference. It, among other things, raised over \$576,000 in the first ten months of 1942, and plans to raise \$1,000,000 in 1943 to support the work of its Commission on American Missions and help for refugees and war prisoners. Lutherans have carried a heavy burden in adopting the orphaned missions of European churches, and have taken seriously the duty of ministering to the new communities of war workers.

Efforts toward Lutheran unity have continued. An All-Lutheran Conference, held in May at the call of the National Lutheran Council, failed to reach its objective, but some of the bodies represented in the Council have drawn closer together in cooperative work, especially in missions

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and in unified courses for their church schools. The celebration of the Muhlenberg bicentennial in 1942 was of interest to all Lutherans and to many others. Combined statistics for all Lutheran bodies in the United States and Canada show 13,213 ministers, 15,825 congregations, 5,052,321 baptized members (3,573,383 confirmed), expenditures for missions, benevolences, and the general work of the church \$11,095,073, and for local church operations \$47,257,735.

### AMERICAN LUTHERAN CONFERENCE

The Conference and its constituent churches have been zealous in cultivating Lutheran unity. A convention of the Conference at Rock Island in November 1942 urged the constituent bodies to extend the practice of "pulpit and altar fellowship" with other Lutherans. Such agreements have been made between Augustana Synod and the Lutheran Free Church, between the American and the United Lutheran Churches, and among the Norwegian, Danish and United Lutheran Churches. The Augustana Synod has achieved a mutual recognition of doctrinal agreement with the United Lutheran Church and the Synod of Missouri.

The Norwegian Lutheran Church of America has 581,287 baptized members (407,812 confirmed), 2,713 congregations, and 1,437 ministers of whom 54 are chaplains and 46 are foreign missionaries. For the celebration of the Church's centennial (in 1943, but postponed until peace), \$2,500,000 has been pledged and \$1,800,000 paid in cash. The Lutheran Free Church is an association of 369 independent Lutheran congregations having 31,220 communicants.

The five Lutheran bodies associated in the Conference have 1,594,767 baptized members, 5,048 congregations, 4,400 ministers, church property worth \$102,984,942, and has contributed \$3,836,840 for benevolences and \$13,877,978 for local expenses.

### LUTHERAN SYNODICAL CONFERENCE

About four-fifths of the strength of

the Synodical Conference is in the Synod of Missouri, Ohio, and other states. This synod has 1,415,324 members, 4,269 ministers, conducts 1,241 parochial schools, and contributed \$18,063,129 for all church purposes. Its Laymen's League sponsors the radio Lutheran Hour, which has now entered its tenth year. The church has 130 chaplains and 50,000 men in the armed services. A fund of \$440,000 was raised for ministry to servicemen. An Emergency Planning Council deals with the needs of new industrial communities. A Lutheran Women's Missionary League was organized at Chicago, July 7, 1942. A Lutheran Youth Building in Chicago was completed at a cost of \$100,000. The Missouri Synod favors the movement for Lutheran unity, provided it is "on the basis of sound unity in doctrine."

### THE METHODIST CHURCH

Membership as of Dec. 31, 1942 is estimated at 7,708,007, a gain of 49,000 for the year. Giving for all purposes (1941) totaled \$88,908,325, which included \$12,713,960 for general, conference, and local benevolences, \$20,131,317 for current expenses, \$34,789,412 for ministerial support, and \$21,131,317 for buildings and indebtedness. Seventy-five per cent of the foreign missions program is still being carried on, though with many transfers of workers. Colleges are cooperating with the Government in curriculum and schedule changes to provide technical training. About 1,000 chaplains are commissioned or awaiting appointment. The Council of Bishops and the General Commission on World Service and Finance called for a 10 to 25 per cent increase in World Service giving before May 31, 1943, and for a special Week of Dedication "of self, service and substance," Feb. 28-March 7, 1943. The offering on March 7 is expected to yield \$1,000,000.

The Commission on World Peace asked the President to extend the Atlantic Charter into a "World Charter for all Mankind," and planned an educational program on the moral



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and spiritual bases of a just and durable peace. Methodist youth from 47 states, 1,100 strong, in the first national convocation of the Methodist Youth Fellowship at Oxford, O. in September, petitioned the President "to use the offices of our government for the abolition of imperialism and economic exploitation, and for the development of democratic ideals among our United Nations and their dependencies." The Council of Bishops, at Cleveland in December 1942, issued a message to the church saying: "We pledge ourselves to the destruction of this brutal and unwarranted aggression and to the preservation for all mankind of the sacred liberties of free peoples."

### CHURCH OF THE NAZARENE

The Church of the Nazarene has a membership of 174,507 in the United States, Canada, and Great Britain, and about 20,000 in the church's foreign mission fields. It has 1,371 licensed ministers and 3,360 elders. The total amount raised for all purposes in 1941 was \$6,277,076, giving the remarkable per capita average of \$35.97. Each of the 50 districts in the United States has an annual conference. The quadrennial General Assembly will meet in June 1944. There are six colleges in the United States and one in Canada.

### PRESBYTERIAN CHURCH IN THE U. S. A.

The General Assembly, in May, faced seriously the problem of defining the relation of the church to the war. The statement first adopted declared that "the cause for which our nation is at war is just and righteous, and that our freedom, our culture and our historic faith are dependent upon the outcome of the conflict." When on further thought it seemed unwise and inaccurate to say that the faith could not survive without a military victory, it substituted the clause, "we have no alternative as a nation but to engage in this war." The church was active through the year in carrying on its normal programs and in bearing the added re-

sponsibilities which the war emergency places upon a body with nearly 2,000,000 members and a long tradition of vigorous participation in every movement involving the common welfare.

### PRESBYTERIAN CHURCH IN THE U. S.

The territory in which this branch of Presbyterianism works is the Southern states. Its 17 synods (generally on state lines) have 2,487 ministers, 3,500 congregations, 546,479 members. In the past year there were 18,338 additions on confession of faith, 25,269 by certificate, 10,745 adult baptisms, 2,127 infant baptisms; \$3,516,482 was raised for benevolences, and \$9,564,809 for other church purposes. Foreign mission fields are (or were) Africa, Brazil, Mexico, China, Japan, and Korea. At home the church supports four theological seminaries, three training schools (one for white, two for Negroes), 13 colleges, eight junior colleges, 11 schools (preparatory, mission, mountain, and Mexican), and 16 orphans' homes and schools. The 82nd General Assembly met at Knoxville, Tenn. May 28, 1942; Chas. G. Rose, moderator. It voted to continue membership in the Federal Council, which it rejoined in 1941. The church had 68 chaplains in service in March, 1942, and the number has increased since. A special fund of \$100,000 was authorized for the work of churches adjacent to army camps, assisted by the Defense Service Council, and \$250,000 a year for five years to meet the religious needs of new industrial communities and the families of servicemen and workers in war plants. The 1943 General Assembly will meet at Montreat, N. C. May 27.

### UNITED PRESBYTERIAN CHURCH

This church has a membership of 190,724. Ministers and licentiates number 907. Its contributions totaled \$4,701,595. The General Assembly met at Columbus, O. May 27-June 1, 1942. Among the acts of the General Assembly were: provision for completion of ministers' pension fund and



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for maintaining pensions of chaplains; provided for an emergency fund for the colleges; appointed committees to formulate an interpretation of the church's teaching on baptism, to revise the curriculum of the theological seminary, to maintain spiritual morale in wartime; celebrated the centennial of the weekly *United Presbyterian*.

### PROTESTANT EPISCOPAL CHURCH

No national conventions of the Protestant Episcopal Church were held in 1942. The triennial General Convention will meet in Cleveland in October 1943. The House of Bishops, which met in Jacksonville, Fla. Feb. 4-5, devoted much of its attention to the church's wartime program, including the work of chaplains with the armed forces, and work with parishes near military centers, and with persons engaged in war industries. The House elected bishops as follows: for New Mexico, James M. Stoney; Idaho, Frank A. Rhea; Nevada, William F. Lewis; and (February 1942) for the Philippines, the Rt. Rev. Norman S. Binstead, formerly Bishop of Tohoku, Japan. At the same time Presiding Bishop Tucker announced the appointment of the Rt. Rev. Charles S. Reifsnider, former bishop of North Kwanto, Japan, to be in charge of work among Japanese in the United States.

The proposed concordat with the Presbyterian Church in the U. S. A. has been under consideration by many groups. It is expected that it will be presented to the 1943 General Convention for action. A major project of the church is the Forward in Service Movement, a ten-year plan inaugurated in 1937 at the initiative of the presiding bishop, with specified objectives for each year, to strengthen the church in all its activities and, as now seen, to prepare it to do its share in assuring a Christian peace and a Christian reconstruction after the war. The Army and Navy Commission selects Episcopal chaplains, furnishes them with needed equipment and discretionary funds,

and pays pension premiums for many of the 300 now in service. It has received more than \$400,000 for its work. A special committee is working in the new industrial centers, and this work is to be greatly extended during 1943.

### REFORMED CHURCH IN AMERICA

This church has 163,835 communicant members, 727 congregations, 892 ministers. It raised \$3,505,130 for the expenses of local congregations and \$720,717 for other purposes. An important event of the year was the celebration of the centenary of its China mission, which reports the successful attainment of its goal, which was to preach the gospel in every home in its field, South Fukien Province, before the end of the centenary year. The church's slogan for the coming year is: "Revive thy church, O Lord, beginning with me." The next meeting of the General Synod will be at Pella, Ia. June 3, 1943. Joseph R. Sizoo is president, and James E. Hoffman is stated clerk *ad interim*.

### CHRISTIAN REFORMED CHURCH

Dating its separate existence from 1857, this strictly Calvinistic body, composed almost entirely of persons of Dutch descent, has about 125,000 members. Its Calvin College and Seminary are at Grand Rapids, Mich. Rev. Henry Beets retired from the stated clerkship after 40 years of continuous service in that office, and was succeeded by Rev. John DeHaan.

### CHURCH OF CHRIST, SCIENTIST

Wartime relief and ministry to men in the armed forces were the principal activities in 1942, aside from the normal program. The War Relief Committee of the Mother Church (Boston), continuing and increasing the work begun in 1940 and aided by many local committees, up to Oct. 1 had shipped to European countries 9,400 cases of clothing, containing 1,880,000 articles valued at \$1,399,546. Most of this went to Great Britain.

Careful plans were made and put into operation to meet the religious

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needs of Christian Scientists in the American armed forces. Besides 12 Christian Science chaplains in the army, there are more than 100 full-time "wartime ministers" at camps and with the troops, and about 150 volunteer workers who minister to the needs of Christian Scientists and others in the forces who invite their aid. The services include the conduct of worship, healing, providing literature, arranging lectures on Christian Science, and personal counseling. Somewhat similar services are provided among British forces and American troops in Great Britain. Not only have the nine churches in Berlin been closed and their assets confiscated by the Gestapo, but all of the 88 branches in Germany have been disbanded under a government order which forbids any act "which amounts to an attempt to continue this organization or to refound it in another form with the same or similar aim."

The *Christian Science Monitor*, widely read national daily, was awarded the Maria Moors Cabot Plaque, by the trustees of Columbia University, for promoting international understanding and friendship in the Western Hemisphere. This

award, never before given to a North American newspaper, was a recognition of the editorial policy and the foreign news service of the *Monitor* and also of the value of its "peace department" which was introduced early in 1942 under a special "peace aims editor."

### UNITED BRETHREN IN CHRIST

The Church of the United Brethren in Christ, rising out of a spiritual awakening in Pennsylvania, Maryland, and Virginia about 1767, organized its first conference in 1789. Its present membership in the United States is 425,294. It has 1,581 ministers, and gave \$6,239,022 for all purposes in 1941. The next annual meeting of its Board of Administration (Bishop A. P. Clippinger, chairman) will be held Feb. 17-19, 1943. Headquarters are at Dayton, O. The major project for this quadrennium is the raising of an endowment fund for ministerial pensions. Wartime service is directed by a special committee and includes the promotion of offerings for foreign relief, aid to chaplains, and ministry to men in the armed forces and to transients in wartime industrial centers.

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By PRESTON KING SHELDON  
EDITOR AND WRITER

### CHURCH RESPONSIBILITIES IN WARTIME

While the United Nations were using their social, economic, and military strength to defend themselves against aggression through 1942, religious leaders were gathering moral strength to promote emergency projects in social and economic as well as hygienic security, which were all threatened with collapse as a direct effect of the war. Increases were reported in the United States in juvenile delinquency, crime, venereal disease, gambling, indecency in the theater and motion pictures, and hoarding of

foods. Deprivations were regarded as so serious in the matter of packaged foods that rationing was decided upon before the year ended to protect the low income groups from food shortages. This step was requested by several national groups including the Federal Council of the Churches of Christ in America; National Catholic Welfare Conference; National Council of Jewish Women; and the Cooperative League of the United States which had a leading part in creating this demand. Other groups adding their support included the American Association of University Women;

National Council of Business and Professional Women, American Home Economics Association, American Federation of Labor, and the Congress of Industrial Organizations and its women's auxiliary.

Moral standards reached beyond the pale of ecclesiastical regimen. They became of practical value in self-defense. Protestants, Roman Catholics, and Jews found themselves in new situations as needs confronted them which transcended conventional and ecclesiastical limitations.

Opposition arose on all sides to vices threatening the spiritual and physical welfare of men and women in the armed forces and defense work. Educational and restrictive moves were taken to prevent the spread of venereal disease, gambling, and alcoholism. The world crisis also presented to religious leaders an opportunity to emphasize the inevitability of meeting demands for a new world with plans for its reconstruction. Works of mercy and economic aid called forth by increased poverty, sickness, and needs of refugees from the war were undertaken by both religious and secular welfare groups. Many necessary agencies, already organized to meet economic problems arising from a prolonged business depression, were ready.

#### **FEDERAL COUNCIL ORGANIZES FOR WAR WORK**

The Federal Council of the Churches of Christ in America through its executive committee decided in January, 1942 to organize for war service by coordinating the work of existing agencies and to collaborate with the Home Missions Council in setting up immediately a Commission on Aliens and Prisoners of War in America. The executive committee of the former, on Dec. 30, 1941, issued a message stating its position on the war, which was augmented by the Federal Council itself in biennial session Dec. 8-11, 1942 in Cleveland.

The Council's statement from its biennial session follows:

"We do not regard the present war as merely a conflict between national self-interests or rival imperialisms. If the war could be fully described in these terms, the Christian Church, as a supra-national ecumenical fellowship, might have little or nothing to say about the issues at stake. Beneath the conflict of nations we discern a crisis of civilization itself—a conflict of moral ideas and of two different conceptions of the meaning and end of human existence. In this conflict the Christian Church has a valid and inescapable concern.

"Although we may differ in our appraisal of the historical factors that have produced the war, we are agreed that its outcome will gravely affect the future opportunity of Christians to achieve social and political goals consonant with Christian principles. The triumph of the Axis powers, according to their own definition of their objectives, would mean a deliberate effort (1) to subject every realm of personal freedom to the tyranny of the state; (2) to substitute the arbitrary decisions of a dictatorship for an ordered regime of law and justice; (3) to establish the domination of an alleged master-race in place of a democratic fellowship of races; (4) to deprive free nations of their own governments and make them vassals of a supreme military power; (5) to exercise such an exclusive control over the education of youth as to impose the entire totalitarian philosophy upon them.

"Such avowed aims as these are not merely unchristian; they are positively anti-Christian. They frankly repudiate the best elements that Christianity has contributed to the shaping of civilization. If such aims should now become fortified by the military victory of the Axis nations, the result would be an incalculable setback to those who seek such Christian objectives as the following: (1) to maintain responsible freedom of thought, freedom of conscience, freedom of economic opportunity, freedom of worship and of religious life; (2) to establish for all men a system of justice based on law; (3) to de-

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velop a brotherhood of equal opportunity for all races; (4) to work for a political world-order which shall more fully express the unity of mankind as one family of God; (5) to educate youth in the understanding of Christian objectives and personal commitment to them.

"We do not hold that these Christian goals would become wholly impossible in the case of an Axis military victory; God has ways of working that are beyond our human limitations. He has used for His Kingdom the loyal witness of Christians even in the face of the worst tyranny. But we are obligated as Christians to exercise such foresight as He has given us to make practical decisions in the light of our best understanding of the moral consequences and in accordance with the dictates of conscience.

"We do not hold that a victory of the United Nations would, in itself, guarantee the achievement of any Christian goals. Their achievement, which is the essential victory for which Christians strive, depends upon the acceptance of the will of God in the hearts of men. But we are convinced, beyond any room for doubt, that the external conditions, will be vastly more favorable to working for Christian social objectives in the event of the military success of the United Nations than in the event of their defeat. A victory of the United Nations would at least afford in many lands a degree of freedom in Christian service of which—so far as human eye can see—an Axis victory would rob us. No thoughtful Christian, therefore, can be indifferent to the outcome of the war.

"We make our judgment with the greater confidence because we know that in Axis nations themselves there are many Christians who hold the same view, who see as clearly as we the radical contradiction between Christianity and Nazism, and who share with us the conviction that the triumph of Nazi principles would be a disaster to ecumenical Christianity. The triumph of an unqualified nationalism, such as is rooted in the state Shintoism of Japan, would

be likewise hostile to the ecumenical ideal.

"As Christians we take our stand not as the mouthpiece of any national cause but as members of a world-wide fellowship. We, therefore, renounce hatred and vengeance for the people of the lands with whose governmental regimes our nation is at war and we commit ourselves to working for a just and durable peace as the outcome of the victory of righteousness that we seek.

"We recognize that whatever the issues of war may seem to be there are some sincere Christians who believe that force is never permissible to resolve them. The Federal Council in adopting this resolution does so without denying the right of Christians to adhere to that position, recognized by the Oxford Conference of 1937 as one of those which true Christians may hold."

### PROTESTANT-CATHOLIC-JEW PEACE MOVE

Moves for a just and durable peace gained acceleration in 1942 among Roman Catholics and Jews as well as Protestants. Moreover they took on an interfaith character and became accepted as signs of "one of the main current emphases" of these groups. Objectives defined within denominational circles came to exhibit similarity. In fact, fundamental common religious beliefs were reduced to a joint declaration and issued by the National Conference of Christians and Jews over the signatures of laymen and clergymen. The conference also published summaries of pronouncements on peace originating in each of the groups, together with a summary statement signed late in 1940 by Protestant and Catholic churchmen in England. (See *Religion and the Good Society*, National Conference of Christians and Jews, 1942.)

Introducing the peace summaries, a leaflet of the National Conference of Christians and Jews, prepared by Dr. Benson Y. Landis, declared: "There is a conviction in religious circles that it is necessary to work actively for post-war arrangements now, while the



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war is going on. Otherwise it would be too late." The statement from England, published Dec. 21, 1940, was cited in 1942 as "probably the best summary statement that has been made anywhere." It was issued in a letter to the *Times* of London by leading authorities of Anglican, Roman Catholic, and Free Churches who had accepted a previous declaration on peace in five points by Pope Pius XII. The letter to the *Times* enumerated principles which are here given in brief:

Assurance to all nations of their right to life and independence.

Disarmament, mutually accepted, organic and progressive in letter and spirit.

An international institution which shall guarantee "the loyal and faithful fulfillment of conditions agreed upon."

The real needs and just demands of nations, peoples and racial minorities to be adjusted on the basis of mutual confidence.

Development among peoples and their rulers of a sense of deep and keen responsibility which weighs human statutes according to the sacred and inviolable standards of the laws of God.

Extreme inequality in wealth should be abolished.

Every child, regardless of race or class, should have equal opportunities of education, suitable for the development of his peculiar capacities.

The family as a social unit must be safeguarded.

The sense of a divine vocation must be restored to man's daily work.

The resources of the earth should be used as God's gifts to the whole human race, and used with due consideration for the needs of present and future generations.

### FEDERAL COUNCIL PEACE CONFERENCE

A conference under the auspices of the Commission to Study the Bases of a Just and Durable Peace of the Federal Council of the Churches of Christ in America, was held at Ohio Wesleyan University, Delaware, O. in

March, 1942, which began by endorsing guiding principles drawn up by the commission. John Foster Dulles, chairman, summarized these as follows: Moral law undergirds our world; disregard of the moral law brings affliction; revenge and retaliation bring no relief; we must find a way to bring into ordered harmony the interdependent life of the nations; this requires that economic resources be looked upon as a trust to promote the general welfare; also, because the world is living and, therefore, changing, there must be ways of effecting peaceful change; colonial government must be administered in the interests of the colonial peoples; military establishments should be internationally controlled; there must be personal freedoms and liberties, without discrimination against nation, race, or class; the power of the United States carries with it a special responsibility which we have neglected; a supreme responsibility rests upon the Church of Christ; Christians should, as citizens, seek to translate their beliefs into realities. These principles were cited in the leaflet published by the National Conference of Christians and Jews in more extended form.

The conference in Delaware also commended the Federal Government for declaring its purpose to achieve economic reciprocity in the Western Hemisphere. Approval was also voted on Article 7, Anglo-American Pact of Feb. 26, 1942, which called for "post-war participation by all countries of like mind, directed to the expansion, by appropriate international and domestic measures, of production, employment, and exchanging consumption of goods which are the material foundations of liberty and welfare of all peoples; to the elimination of all forms of discriminatory treatment in international commerce and to the reduction of tariffs and other trade barriers." The conference declined to assent to any form of international organization restricted to the democracies or the United Nations. It insisted that "the United States pursue a national policy with concern for the welfare of all peoples and that

the United States cooperate fully with all nations and peoples in working toward a world order of justice and peace."

There were 377 lay and clerical religious leaders assembled at Delaware, representing 30 communions and 23 city and state councils of churches. Laissez-faire capitalism and the economics of State Socialism were considered by them as equally inadequate in meeting Christian concepts. It affirmed that it was not a responsibility of the Church to take sides in economic programs but that it was a duty of Christians to be "vitaly concerned for the preservation of human values in any and every system."

## THE POPE'S PEACE PRONOUNCEMENT

Another citation on peace pronouncements in the leaflet of the National Conference of Christians and Jews covered the 1941 Christmas message of Pope Pius XII, summarized in *Catholic Action*, Feb. 1942, as follows:

"1. Within the limits of a new order founded on moral principles, there is no room for violation of the freedom, integrity, and security of other states....

"2. There is no place for oppression in any way of the cultural and linguistic characteristics of national minorities, for the hindrance or restriction of their economic resources.

"3. There is no place for that cold and calculating egoism which tends to hoard the economic resources destined for the use of all....

"4. There is no place...for a mad rush of armaments...The nations of the world must proceed with sincerity and honesty to their progressive limitation....

"5. To procure the rebirth of mutual trust, certain institutions must be established which...will dedicate themselves to the most noble office of guaranteeing the sincere observance of treaties and of promoting, in accordance with the principles of law and equity, necessary corrections and revisions of such treaties.

"6. There is no place for persecution of religion and of the church.... From a lively faith in a personal and transcendent God there springs a sincere and unyielding moral strength which informs the whole course of life...."

## PEACE PRONOUNCEMENT OF AMERICAN RABBIS

The third peace pronouncement cited was one by the Central Conference of American Rabbis, which stated:

"Towards the abolition of war and the establishment of permanent and enduring peace, we urge the following program:

"The extension to all peoples of the earth the opportunity for democracy. Men will never accept slavery, and freedom is the heart of human dignity. The totalitarian state cannot be tolerated. Tyranny of every form must be destroyed. Any state which denies to human beings the right to self-government, which exalts the state above the individual and man above God, cannot endure.

"International cooperation must not be merely political. It must also be economic. The raw materials of the world must be available to all the children of men who need them. Nations must cease to regard each other as hostile competitors. The economy of the world must be reorganized on the basis of friendly co-operation between all nations and races and the recognition of the sacred rights and privileges of every individual.

"Upon all men we urge the recognition that all wealth is of God and that individuals or nations which possess it are merely its stewards. Verily, 'The earth is the Lord's and the fullness thereof.' All that man possesses is but a temporary trust. Ownership carries with it moral and social obligations. Those who fail to recognize these social implications menace the well-being of society and delay the dawn of the Kingdom of God.

"This moral law applies to all ownership, whether of power or of might,

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of authority or rulership, or of the ownership of land, machines or money. There must be no domination of any class in society over any other on the basis of these possessions. All elements of humanity must support this ethical truth, this basic teaching of prophetic religion, this important commandment of God.

"Lastly, we urge all men in this crisis not to abandon their faith in the goodness and in the decency of man, and in the eventual triumph of justice and love. No defeatism, no lowered morale, no despair must fill the hearts of humanity but high hopes, courageous confidence and unshakeable convictions that God is the final arbiter of the destinies of man and that His Kingdom will be established in the not too distant future."

### JOINT STATEMENT OF SPIRITUAL VALUES

What was believed to be the first such statement in history came out of the deliberations of religious leaders in 1942 over the signatures of Roman Catholics, Jews, and Protestants in the United States. It was also issued by the National Conference of Christians and Jews as a declaration of fundamental religious beliefs, in its complete form, as follows:

"We, the undersigned individuals of the Protestant, Catholic and Jewish faiths, viewing the present catastrophic results of Godlessness in the world and facing the fact that our country is at war, realize the necessity for stressing those spiritual truths which we hold in common. We therefore affirm the following fundamental religious beliefs. We believe these convictions are important to every religious person, and are the spiritual foundation of our national life.

"As Catholics, Jews and Protestants, we assert again our abiding loyalty to our respective religious convictions. We recognize differences in many important beliefs. The following statement is therefore not a profession of faith to be considered sufficient or complete by any of us,

but an expression of certain basic convictions which we share.

"We believe in one God, Creator and Sustainer of the Universe. Though we have varying views as to the nature and content of God's more direct revelation, we hold that He also manifests His being, power, wisdom and love through His works and especially in the mind, will and personality of man.

"We believe that the mind of man reflects, though imperfectly, the mind of God, and we reject, as a betrayal of human dignity, all attempts to explain man in merely material terms.

"We believe that God's all holy will is the ultimate sanction of human morality and that man's true freedom and happiness depend on his obedience to the will of God as known to him. We reject all deterministic interpretations of man and all reduction of his moral duties to mere custom or social adjustment.

"We believe that recognition of man's dependence upon God is essential to the progress of true civilization; that nations, as well as individuals, are bound to acknowledge this; and that education or social theories which would state man's duties, standards and happiness without reference to God are doomed to failure.

"We believe that God's fatherly providence extends equally to every human being. We reject theories of race which affirm the essential superiority of one racial strain over another. We acknowledge every man as our brother. We respect and champion his inalienable rights, and are determined to do all in our power to promote man's temporal and spiritual welfare as necessary consequences of our duty to God.

"We believe the republican form of government to be the most desirable for our nation and for countries of similarly democratic traditions. Any political forms, however, can bring liberty and happiness to a society only when moral and religious principles are accepted and practiced.

"We believe, with the founders of this republic, that individual rights are an endowment from God, and we



reject, as certain to result in the enslavement of man, all denials of this principle."

Among the signers of the statement were:

Dr. Luther A. Weigle, President of the Federal Council of the Churches of Christ in America; the Rt. Rev. Msgr. John A. Ryan, Catholic University of America; Dr. Louis Finkelstein, President of the Jewish Theological Seminary; Dr. Daniel A. Poling, President of the International Society of Christian Endeavor; James M. Gillis, Editor of the *Catholic World*; Rabbi Israel Goldstein, President of the Synagogue Council of America; Dr. Samuel M. Cavert, General Secretary of the Federal Council of Churches; Vincent C. Donovan, President of the Catholic Thought Association; Rabbi James Heller, President of the Central Conference of American Rabbis.

Also, Dr. George A. Buttrick, Dr. Henry Sloane Coffin, Dr. Arthur H. Compton, Rabbi Abraham Cronbach, Thomas E. Dewey, John Foster Dulles, Dr. Harry Emerson Fosdick, Thomas F. Coakley, Bishop Edwin Holt Hughes, John LaFarge, S.J., Bishop William T. Manning, Dr. William Barrow Pugh, J. Elliott Ross, George N. Shuster, Dr. Ernest Fremont Tittle, and Joseph F. Thorning.

## FEDERAL COUNCIL BIENNIAL MEETING

The Right Rev. Henry St. George Tucker, Presiding Bishop of the Protestant Episcopal Church, was elected president of the Federal Council of the Churches of Christ in America in December at Cleveland, succeeding Dr. Luther A. Weigle. The Council had scheduled its biennial meeting for Oct. 27-30 in Columbus, but changed its place and date when it had been learned that a World Christian Mission Convocation planned by the Foreign Missions Conference of North America for the first week in December in Cleveland had been cancelled. A report of the Council's meeting released to the press declared it "marked the furthest point yet reached in interchurch cooperation in

this country." Six Protestant interdenominational agencies met jointly for two days with the Council with more than 1,000 delegates attending. Three additional denominations were taken into council membership during the biennium. They were the Presbyterian Church in the U. S. (South); Church of the Brethren, and Ukrainian Orthodox Church of America, second branch of the Eastern Orthodox Church to enter. The first was the Syrian Antiochian Orthodox Church which became affiliated in 1938.

## PROPOSAL FOR A NORTH AMERICAN COUNCIL

A proposal for merging eight interdenominational agencies in a North American Council of the Churches of Christ was received at Cleveland and approved by the council delegates, who authorized the executive committee to send the proposal with a draft of the proposed constitution to the affiliated denominations for their approval. Similar action was taken by the Home Missions Council. The Foreign Missions Conference of North America referred the proposal to its member boards without recommendation. The United Council of Church Women took it under advisement. The remaining agencies were expected to take the proposed merger up later. These agencies were the Missionary Education Movement of the United States and Canada, United Stewardship Council, Council of Church Boards of Education, and International Council of Religious Education. The merger plan provided for a committee on further procedure and deferred for further conference the relation of churches of the United States to those in Canada, within the Council.

## RELIGIOUS FREEDOM

A clash in interpretations took place in 1942 over the publication of an endorsement by Roman Catholic Archbishops and Bishops in the United States of what was construed by the Federal Council of Churches and two of its cooperating Protestant



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agencies to be a circumscription of Protestant missionary efforts in Latin America. The Council, with the ratification of the Foreign Missions Conference of North America and the Home Missions Council, adopted a declaration drafted by Dr. John A. Mackay, entitled "Our Heritage of Religious Freedom," which was partly an interpretation of the historic position of Protestantism on religious freedom and partly a rejoinder to the Roman Catholic statement.

The Federal Council's report to the press characterized the latter as an "effort to shut Protestantism out of Latin American countries." The Council, however, on Dec. 11 in biennial session welcomed evidences of growing cooperation between Protestants and Roman Catholics in a statement it adopted and added to its press release. This was as follows:

"We rejoice in the evidences of growing collaboration between Protestants and Roman Catholics in various countries in the problems of reconstruction after the war.

"In countries occupied by the Nazis, Catholic and Protestant leaders are cooperating in their resistance to tyranny and the attempted invasion of spiritual freedom by the State. In Great Britain a joint committee has been created representing the Roman Catholic Sword of the Spirit Movement and its Anglican and Free Church counterpart, the Religion and Life Movement. In this endeavor, supported by Cardinal Hinsley, the Archbishop of Canterbury, and the moderator of the Free Church Federal Council, Protestants and Roman Catholics are pledged to 'work together through parallel action in the religious field and through joint action in the social and international field.' In the United States Protestants and Roman Catholics have been giving much thought and study to the bases of a just and durable peace. Although each group has conducted its studies separately, there is agreement in their thinking on many points.

"We record the desire and the readiness of the Federal Council of the Churches of Christ in America to co-

operate with the Roman Catholic Church in the United States in a mutual effort for the welfare of society as a whole and, in such ways as may prove possible, to bear common testimony to the guiding principles of the Christian faith in relation to the post-war world."

### PROTESTANT REACTION TO THE CATHOLIC POSITION ON LATIN AMERICA

The statement by Dr. Mackay adopted by the three Protestant groups, embracing the Protestant struggle for religious freedom and an interpretation of the statement by Catholics, follows:

"The struggle for freedom, now raging throughout the world, turns our thoughts to our American heritage. The men who founded the United States sought freedom under God in the Western World and bequeathed freedom to their heirs as their most precious possession. At a very early time in the country's history, liberty was granted to all religious groups to enter the national territory and to practice and propagate their faith within and outside the nation. In keeping with this doctrine of religious freedom, which is inherent in Christianity and associated historically with the Protestant expression of the Christian religion, the rights of religious minorities, both Christian and non-Christian, have been sedulously respected. Our national experience has been that the free inter-action of religious faiths, and the endeavor of each to express the truth and goodness for which it stands, have been an important factor in the cultural development of the United States. For in the things of the spirit, as in things material, the principle of monopoly has had, and will continue to have, most unhappy results. We rejoice, therefore, that a country, predominantly Protestant, in which the great majority of those who make religious profession are members of denominations born of the Protestant Reformation, is committed by tradition and experience to favor complete

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religious liberty in all parts of the world.

"In the exercise of this freedom, and under the sole impulse of their religious faith, Protestant Christians from the United States have been emissaries of goodwill in every region of the globe. Through the circulation of the Bible in a thousand languages and the proclamation of the truths contained therein, by the establishment of schools and hospitals, by industrial and agricultural effort in rural areas, representatives of American Protestantism have given practical expression to the implications of the Christian Gospel. They have also cooperated with national groups in many lands to promote human welfare in all its phases. By such activities they created, as an undesigned but happy consequence, a reservoir of good will towards this country.

"This may be equally affirmed of the work of Protestant Christians in the lands of Asia and Africa and in the Hispanic American lands which are our neighbors. Among the citizens of the United States who have contributed to spiritual and cultural advancement in the sister republics of Hispanic America are names of men and women of Christlike spirit who, unshamed of the name of missionary, devoted their lives and talents to those lands. The memory of many of these is today revered in the countries which they served, while institutions which they founded continue to be popular centers of cultural influence and patterns of humanitarian endeavor. Through the work of these men and women and their successors, elements of supreme worth in the religious and cultural heritage of our country have been shared with Hispanic America, while innumerable links of understanding and mutual confidence have been forged between the Americas.

"It is with deep concern, therefore, that we witnessed an effort now publicly endorsed in the United States by the Archbishops and Bishops of a sister Christian communion which constitutes a religious minority in

this country, to set the relation of Protestant Christianity to Hispanic America in a perspective which does violence both to historical truth and contemporary fact. We deplore the pretension of the Roman Catholic hierarchy to circumscribe the religious freedom of Protestant Christians in the proclamation of their faith, while by implication reserving for themselves the right to the universal proclamation of their own. We can imagine no policy more certain to project into the New World the baneful intolerance which is now producing such tragic consequences in the contemporary life of Spain. We, accordingly, feel it incumbent upon us to make the following simple and plain affirmations:

"First: The Federal Council of the Churches of Christ in America stands, and will continue to stand, for the principle of religious liberty and for the rights of religious minorities in the United States and throughout the world.

"Second: The churches represented in this Council will continue to express solidarity with the national and autonomous Protestant churches in Hispanic America, whose numerous members are loyal and patriotic citizens of the countries where they dwell. They will also continue to avail themselves of the constitutional freedom which the republics of Hispanic America grant to the representatives of every faith. Their controlling aim in the discharge of their ministry will be, and it has always been, to have a part, however humble, in interpreting the significance of our Lord Jesus Christ for life and thought in those great and growing nations.

"Third: We affirm, with full and first-hand knowledge of the facts, that, so far from Protestant institutions and representatives of Protestant Christianity being a peril to good relations between the Americas, they are today, with some easily explained exceptions, and have been for decades, regarded with great favor by governments and peoples in the countries where they are located.

"Fourth: While obliged by circum-

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stances not of our seeking to make this statement in order to clarify the American Protestant position upon a crucial issue, it is nevertheless the judgment and desire of this Council that Protestant and Roman Catholic Christians should combine their influence, in these days of supreme crisis, to work for religious freedom and the other great freedoms, both now and in the post-war world."

### THE ROMAN CATHOLIC STATEMENT

The statement endorsed by the Roman Catholics was on "Victory and Peace," issued by members of the administrative board of the National Catholic Welfare Conference following approval at the annual session of the hierarchy in Washington, in November. It called for united support of our war effort and "for a victory and for a peace acceptable to God." It urged respect for the rights of minorities, particularly Negroes, and a limitation so far as possible upon the employing of women in war work. It also called for the subservience "to the common good of communities and nations" of the "profit element of industry and commerce." It declared that "Secularism can not write a real and lasting peace. Its narrow vision does not encompass the whole man; it can not evaluate the spirituality of the human soul and the supreme good of all mankind."

Greetings were expressed to fellow bishops in Latin America and in that part of the statement which followed came the matter which met with a rejoinder from Protestants:

Referring to the peoples in Latin America, it said: "Every effort made to rob them of their Catholic religion or to ridicule it or to offer them a substitute for it is deeply resented by the peoples of these countries and by American Catholics. These efforts prove to be a disturbing factor in our international relations. The traditions, the spirit, the background, the culture of these countries are Catholic. We bishops are anxious to foster every worthy movement which will

strengthen our amicable relations with the republics of this continent. We express the hope that the mistakes of the past which were offensive to the dignity of our southern brothers, their culture, and their religion will not continue."

### FOREIGN MISSIONS

Two annual meetings were held by the Foreign Missions Conference of North America in 1942, one in Trenton, N. J. in January, and the other in Cleveland in December.

At the earlier meeting, attended by 340 delegates from 123 mission boards and agencies, a report was made on expenditures for 1940 totalling \$20,-515,000 for overseas work, noting that of the total, \$4,526,000 was used in India, Burma, and Ceylon; \$3,656,000 in China; \$2,212,000 in Latin America; and \$2,122,000 in Africa.

Dr. Emory Ross, general secretary, reported 1,454 American missionaries still at their posts in the Pacific area, the largest number being 754 in Chinese territory occupied by Japanese troops. In the Philippines were 430 others; in Japan, 68. The rest were in smaller groups elsewhere.

The conference voted approval of emergency relief by agencies already backed by church boards and urged mission boards who had not yet set up relief committees to do so quickly. The agencies approved for support, through denominational channels included the Church Committee for China Relief, Central Bureau for European Relief, American Friends Service Committee, International Missionary Council, War Prisoners Aid of the Y.M.C.A., Y.W.C.A. War Emergency Committee, American Bible Society, and the American Committee for Christian Refugees.

Dr. Leslie B. Moss, head of an interdenominational committee coordinating appeals to churches, said a total of \$6,000,000 would be required in 1942 for civilian relief, of which about one-third could be expected from Protestant churches in the United States. Dr. A. L. Warnshuis, retiring secretary of the International Missionary Council, reported a total



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of \$1,616,891 received since September, 1939 for support of missionaries from Belgium, France, Scandinavia, Holland, and Germany, who were serving mostly in Asia and Africa and had been cut off from their supporting churches at home by the war. The conference recommended that its agencies serving in China make plans to increase medical, hospital, and other supplies to missions in west China, through the use of mission-owned trucks via Burma Road, and made other emergency recommendations.

At the December meeting in Cleveland the Foreign Missions Conference of North America adopted a message sent to its constituents, declaring that world Christian missions had helped create "a revolutionary demand for full human rights to all people." "We shall continue to work for better understanding between races," the statement continued. "The coming decade must be a period in the world's history when the common life of all shall be brought nearer to justice and equality." This message was sent by the conference's committee on international relations. Dr. Ralph E. Diefendorfer, secretary of the Board of Missions and Church Extension of the Methodist Church, told the conference in a keynote address that "apparently we have come to the end of liberal individualism, laissez-faire democracy and power economics, which were once thought to be the elements of world order." After he spoke, the delegates discussed "The Meaning of the World Revolution for the Christian Movement," to mission fields or groups. The conference joined the Federal Council of Churches in voting to organize a new committee on rehabilitation and relief to serve American churches in administering relief in Europe and Asia.

### HOME MISSIONS COUNCIL

In its annual meeting at Cleveland, the Home Missions Council opposed publicity and education projects aimed at stimulating pity for the disinherited, instead of respect for their

dignity and potentialities, and emphasized its own program of leading migrant workers to learn to help themselves, rather than to depend on conventional charity. Mrs. Norman Vincent Peale of New York City was elected president, being the first woman to hold that office.

### CONTACTS WITH GREAT BRITAIN

Several American religious leaders went to England in 1942 to meet religious leaders there and bring back reports. Among these were John Foster Dulles, Walter W. Van Kirk, and Dr. Samuel McCrea Cavert of the Federal Council of Churches; Everett R. Clinchy, president of the National Conference of Christians and Jews; Rev. Vincent C. Donovan, a Roman Catholic priest associated with the conference, and Rabbi Morris Lazaron, who accompanied them. The latter, who were back in the United States in October from a trip started in mid-September, told of an awakening of spiritual life in Great Britain. Dr. Cavert, reporting at the annual joint meeting of the World Conference on Faith and Order and the Universal Christian Council for Life and Work, in New York City, from a trip he also took in September, which included a visit also to Europe, to visit leaders in the ecumenical movement, said churches were far more deeply affected overseas than in the First World War. He emphasized their needs for services the proposed World Council of Churches would be able to give. "It is deeply gratifying," he said, "to discover that the World Council of Churches, although in a preliminary stage of organization, is actually a functioning reality." Dr. Van Kirk, who with Mr. Dulles preceded Dr. Cavert, but went only to England, reported in the Federal Council *Bulletin* in September that American and British churches were in agreement at most points on post war aims.

### WORLD COUNCIL OF CHURCHES

The total of churches accepted into the World Council of Churches, ac-



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cording to a report in 1942, had reached 76 in 28 countries. The report was made from Geneva in August, covering July 1941 to July 1942, and expressed gratitude for addresses on world Christian fellowship by the Archbishop of Canterbury, who was chairman of the provisional committee at work on organizing the Council.

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BY PAUL F. TANNER

DIRECTOR, YOUTH DEPARTMENT, NATIONAL CATHOLIC WELFARE CONFERENCE

#### NATIONAL CATHOLIC WELFARE CONFERENCE

Many of the activities of the Church in the United States clear through the National Catholic Welfare Conference, official agency of the Archbishops and Bishops of the country. Membership in the N.C.W.C. includes the Bishops of the Church in the United States and its territories and possessions. Its work is directed by an Administrative Board and episcopal committees appointed by the general body of Bishops at their annual meetings.

The incorporated purposes of the N.C.W.C. are "unifying, coordinating, and organizing the Catholic people of the United States in works of education, social welfare, immigrant aid and other activities." Thus, the N.C.W.C. serves as a central clearing house of information and assistance in a great variety of Catholic interests through the maintenance of its several departments and bureaus, the listing of which indicates their scope and fields of interests: Executive, Youth, Education, Press, Social Action, Legal, Lay Organizations (National Council of Catholic Men, National Council of Catholic Women), and Catholic Action Study.

The Executive Department maintains bureaus as follows: Immigration, National Center of Confraternity of Christian Doctrine, Family Life, Information, Publications, Business and Auditing. This Department is also responsible for the publication of *Catholic Action*, monthly publication of the N.C.W.C. The Education Department maintains bureaus as follows: Health, Library Service,

Statistics and Information, Teachers' Registration. The Social Action Department has a separate division, Rural Life Bureau. The Catholic Conference on Industrial Problems and the Catholic Association for International Peace function in close cooperation with this Department.

At the 1942 general meeting, held in Washington, Nov. 11-13, attended by 102 members of the Hierarchy, six Archbishops and four Bishops were elected to serve as members of the Administrative Board of the N.C.W.C. Their names and portfolios are: The Most Reverend Edward Mooney, Archbishop of Detroit, chairman of the Administrative Board and Episcopal Chairman of the Executive Department; the Most Reverend Samuel A. Stritch, Archbishop of Chicago, vice-chairman and treasurer; the Most Reverend Francis J. Spellman, Archbishop of New York, secretary; the Most Reverend John T. McNicholas, O.P., Archbishop of Cincinnati, Episcopal chairman of the Department of Education; the Most Reverend Joseph F. Rummel, Archbishop of New Orleans, Episcopal chairman of the Legal Department; the Most Reverend John J. Mitty, Archbishop of San Francisco, Episcopal chairman of the Department of Catholic Action Study; the Most Reverend John F. Noll, Bishop of Fort Wayne, Episcopal chairman of the Lay Organizations Department; the Most Reverend John M. Gannon, Bishop of Erie, Episcopal chairman of the Press Department; the Most Reverend Karl J. Alter, Bishop of Toledo, Episcopal chairman of the Social Action Depart-

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ment; and the Most Reverend John A. Duffy, Bishop of Buffalo, Episcopal chairman of the Youth Department. The Right Reverend Monsignor Michael J. Ready is general secretary and Very Reverend Monsignor Howard Carroll, assistant general secretary of the N.C.W.C.

### CATHOLIC POPULATION

According to the *Official Catholic Directory* for 1942, the total Catholic population of the United States, Alaska, and the Hawaiian Islands in 1942 numbered 22,556,242, an increase of 263,141 over the previous year. Archdioceses listing Catholic populations in excess of 1,000,000 are: Chicago, 1,543,471; New York, 1,111,718; and Boston, 1,065,969. The largest diocese is Brooklyn with 984,905.

Three major changes in the geographical structure of the Church's organization in the United States were recorded this year. The diocese of Denver was made an archdiocese; the Vicariate Apostolic of the Hawaiian Islands became the diocese of Honolulu; and the new diocese of Pueblo was created by taking from the Denver archdiocese 30 counties of Colorado covering an area of 48,966 square miles and a Catholic population of 78,373. There are at the present time, therefore, 20 archdioceses and 97 dioceses.

In deference to government wishes, the *Directory* for the first time in its history published a large list of priests—without addresses. They are the chaplains serving the Military, Naval, and Air Forces of the United States. The largest number of ordained priests ever recorded in the United States was totalled this year at 36,580.

### CATHOLIC PRONOUNCEMENT ON THE WAR

In response to a pledge of cooperation which he received from the Hierarchy of the United States, President Roosevelt said, in part: "It gives me strength and courage because it is a witness to that national unity so necessary in our all-out effort to win the

war. . . . We shall win this war and in victory we shall seek not vengeance but the establishment of an international order in which the spirit of Christ shall rule the hearts of men and of nations."

Perhaps the most notable statement of the position of the United States Catholics and the war was made in Washington, Nov. 13, 1942, by the assembled body of Archbishops and Bishops. So important is this formal pronouncement that sections of it deserve repetition.

"Our Country has been forced into the most devastating war of all time. This war, which is the absorbing interest of all the world, involves unquestionably the most important moral issue of today. Some nations are united in waging war to bring about a slave world—a world that would deprive man of his divinely conferred dignity, reject human freedom and permit no religious liberty. We are associated with other powers in a deadly conflict against these nations to maintain a free world. This conflict of principles makes compromise impossible.

"While war is the last means to which a nation should resort, circumstances arise when it is impossible to avoid it. At times it is the positive duty of a nation to wage war in the defense of life and right. Our country now finds itself in such circumstances.

"In the discharge of our pastoral responsibility, we are gravely concerned about the world peace of tomorrow.

"Secularism cannot write a real and lasting peace. Its narrow vision does not encompass the whole man; it cannot evaluate the spirituality of the human soul and the supreme good of all mankind.

"Exploitation cannot write a real and lasting peace. Where greedy might and selfish expediency are made the substitutes of justice there can be no securely ordered world.

"Totalitarianism, whether Nazi, Communist or Fascist, cannot write a real and lasting peace. The State that usurps total powers, by that very

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fact, becomes a despot to its own people and a menace to the family of nations.

"The Spirit of Christianity can write a real and lasting peace in justice and charity to all nations, even to those not Christian.

"In the epochal revolution through which the world is passing, it is very necessary for us to realize that every man is our brother in Christ. All should be convinced that every man is endowed with the dignity of human personality, and that he is entitled by the laws of nature to the things necessary to sustain life in a way conformable to human dignity. In the post-war world, the profit element of industry and commerce must be made subservient to the common good of communities and nations if we are to have a lasting peace with justice and a sense of true brotherhood for all our neighbors. The inequalities of nations and of individuals can never give to governments or to the leaders of industry or commerce a right to be unjust. They can not, if they follow the fixed principles of morality, maintain or encourage conditions under which men can not live according to standards befitting human personality. . . .

"We express our deepest sympathy to our Brother Bishops in all countries of the world where religion is persecuted, liberty abolished, and the rights of God and of man are violated. Since the murderous assault on Poland, utterly devoid of every semblance of humanity, there has been a premeditated and systematic extermination of the people of this nation. The same satanic technique is being applied to many other peoples. . . .

"The war has brought to the fore conditions that have long been with us. The full benefits of our free institutions and the rights of our minorities must be openly acknowledged and honestly respected. We ask this acknowledgment and respect particularly for our colored fellow citizens. They should enjoy the full measure of economic opportunities and advantages which will enable them to realize their hope and ambition to

join with us in preserving and expanding in changed and changing social conditions our national heritage. We fully appreciate their many native gifts and aptitudes, which, ennobled and enriched by a true Christian life, will make them a powerful influence in the establishment of a Christian social order. . . .

"We send our cordial greetings to our Brother Bishops of Latin America. We have been consoled by recent events which give a sincere promise of a better understanding by our country of the peoples of Mexico, Central and South America. Citizens of these countries are bound to us by the closest bonds of religion. They are not merely our neighbors; they are our brothers professing the same faith. Every effort made to rob them of their Catholic religion or to ridicule it or to offer them a substitute for it is deeply resented by the peoples of these countries and by American Catholics. These efforts prove to be a disturbing factor in our international relations. The traditions, the spirit, the background, the culture of these countries are Catholic. We Bishops are anxious to foster every worthy movement which will strengthen our amicable relations with the Republics of this continent. We express the hope that the mistakes of the past which were offensive to the dignity of our southern brothers, their culture and their religion, will not continue. A strong bond uniting in true friendship all the countries of the Western Hemisphere will exercise a most potent influence on a shattered post-war world.

"We urge the serious study of the peace plans of Pope Pius XII which insist that justice be inspired by love,—first, Love of God, and then love of every human being. 'The command of love among individuals found in the Gospels' said Benedict XV, 'differs in no respect from that which should reign among states and peoples' (*Pacem Dei*, Benedict XV, 1920). If we are not to have a Christian peace, then we shall be given only armistice and we shall begin to prepare for a third world conflict.



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"We conclude by urging, again, unceasing prayers."

### PEACE AND WAR MEASURES

A special committee of Bishops has been designated to study peace in the light of papal pronouncements made on that subject during the past 65 years and to develop integrated programs of study on the subject for United States Catholics.

Another historic development in Catholic life in the United States occurred when the Holy See gave permission to Archbishop Spellman, Military Vicar for the Army and Navy, to permit the celebration of the Holy Sacrifice of the Mass during the afternoon and evening by chaplains for the benefit of service men who can not attend morning Mass. This extraordinary privilege dramatizes the extreme anxiety of the Church to provide the fullest consolations of religion to her sons in the service.

A further continuing ministration of the Church, this time in cooperation with the other U.S.O. agencies, to service men is the work of the National Catholic Community Service. From June 1941 to June 1942 the U.S.O.-N.C.C.S. centers cared for 8,041,206 persons, furnishing sleeping accommodations to 114,240. Not least significant were the 2,195,101 hours of service given by 112,314 volunteer N.C.C.S. workers.

### MISSIONS

Indicative of the increasing importance of the United States as a center for Catholic missionary enterprise was the appointment of the Right Reverend Monsignor Thomas McDonnell, national director of the Society for the Propagation of the Faith, to the post of general secretary of the Supreme General Council of the Society—the first time an American has been appointed to this office in the international Catholic mission-aid organization.

The clouds of war cast their chilling darkness over many mission fields under the care of United States Catholic missionaries, especially in the Pacific theater of war. For the most

part the missionaries stayed at their posts and are now captives. In a few cases the Axis conquerors sent them home.

Great as has been the missionary activity of the United States during past years it will seem small by comparison with the tasks which will face it after hostilities are over, with almost the entire clergy of some countries, Poland, for example, slaughtered and the seminaries and houses of study closed for years, with their libraries and faculties destroyed. Only a few years ago a missionary country itself, the United States may conceivably soon play the role of Ireland after the collapse of the Roman Empire and become the source of missionary effort restoring the lost heritage of Christianity to many parts of the Old World.

### OBSERVATIONS ON FEDERAL TAX LEGISLATION

During the year a sinister attempt was made, through the medium of tax legislation, to overthrow the historic foundations upon which numerous private charitable and educational institutions in the United States have hitherto rested. Randolph Paul, then Tax Advisor to the Secretary of the Treasury, proposed to the Congress that several forms of earned income of religious, charitable, and educational institutions be taxed; that gifts and bequests made to such institutions be more heavily taxed; and that excise taxes be placed on things bought by schools and charities. Arthur Krock of *The New York Times* characterized the proposal as "the first blow the Federal Government ever has launched at such institutions, delivered in a time of their greatest trouble."

The Administrative Board of N.C.W.C. fought this proposal vigorously and successfully. Testifying before the Senate committee hearing the bill, Monsignor Ready said: "At a time when the activities of government have so tremendously expanded that there is just cause for concern lest its entrance into private fields eliminate all private agencies



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and ultimately dominate the whole sphere of private life, proposals to tax religious, charitable, and educational agencies are alarmingly foreboding. These fears I regret to say are not unfounded. Rather than place disabilities and impediments in the way of private activities, democratic government should now make it clear that it wishes to encourage private activities in social fields in every way possible."

A bill to remedy this intolerable assault upon the chief of the four freedoms was introduced in the House by Representative Hunter, and the Senate by Senator Pat McCarran. The case will be watched closely by all citizens interested in the preservation of the traditional American liberties.

### INTER-AMERICAN SEMINAR

During September 1942, the N.C.W.C. sponsored an Inter-American Seminar on Social Studies attended by 15 representatives from eight Central and South American republics, by four delegates from Canada, and by a group of ten representatives from the United States. Numerous other scholars from the United States sat in on individual sessions. The general theme of the Seminar was "The Americas and the Crisis of Civilization." Sessions were held in Washington, Chicago, Detroit, Buffalo, and New York City, and totalled 26 meetings in three weeks. Some estimate of the quality of its discussions may be gleaned from the following excerpts from its closing statement:

"The crisis of our civilization that culminates now in the war is, before everything, a tragedy of morality. It springs from a false notion of man and from man's forgetfulness of his own origin, destiny and mission on earth. It has, therefore, roots in religion and no saving solution is possible except by the reestablishment of a thoroughly Christian idea of man and his individual and social life. The crisis has its ultimate origin in the disruption of Christian unity and the pagan Renaissance.

"The unity and equality of rights of mankind are consequences of his common nature which God created, which the Word Incarnate ennobled, which Christ redeemed without distinction of race or of any other kind, and which the teaching of the Gospel called to an identical salvation. This is the bond of all integral culture. Political systems and philosophical systems that deny the equality of mankind and break its unity, the lust for domination and the persecutions founded on racial or religious discrimination are inhuman, anti-Christian and barbarous. . . .

"Individualistic democracy only recently has begun to recognize that the normal life of a nation requires, besides political self-government, a vast net-work of self-governing organized groups. Self-governing families, self-governing industries and professions, a self-governing Church, self-governing cultural organizations are of the very nature of a sound democracy as agents, along with government, of the general good. This organic, closely inter-related democracy, we must build. . . .

"It is a fatal error to regard economic life as independent of the moral teachings of the Church. To the extent that the principles underlying a sound social program are moral, they should be taught as an integral part of the body of Catholic teaching and should be so included in the Catechism and textbooks. . . .

"International collaboration, whole and sincere, is imperative to conquer the crisis and to organize the post-war world on a firm foundation. The egoism that has often been the basic rule of many a nation must give way to universal values. Yet a new method is not enough. A new spirit must come. It must rule international life so as to prevent the recurrence of the purposes, systems and procedures that caused the present catastrophe. A scale of values based on the primacy of the spirit must be made the source of the specific rules of international life.

"These concrete rules must be protected, applied and enforced through

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a coordinated, continued and effective action of all nations. The purpose and justification of the war is not vengeance but the establishment of a just and free order for all peoples of the world."

### NATIONAL COUNCIL OF CATHOLIC WOMEN

The Department of Lay Organizations of the National Catholic Welfare Conference is composed of two branches: The National Council of Catholic Women and the National Council of Catholic Men. Membership in the National Council of Catholic Women for 1942 is reported as follows:

- 65 Diocesan Councils (3,500 local organization affiliations)
- 18 National Organizations
- 7 State Organizations
- 131 Local Organizations

#### War Time Activities:

"The task of our Catholic women's organizations in this crisis is threefold: first, we must give our individual and group strength especially to those agencies in which the service of women is particularly effective and opportune such as the National Catholic Community Service, the Chaplain's Aid, the Red Cross, and Civilian Defense.

"Secondly, as organizations with a definite purpose beneficial to the religious, social, or educational life of our Church and country, we must remember that an 'all-out for victory' does not mean scuttling normal activities . . . So far as it is possible, and although it will mean working double time, the various women's organizations should continue their normal program of activities.

"Thirdly, we must profit from history and experience. Some day the war will be over; we face a period of post-war reconstruction. Catholic women's organizations should train their membership, and gear their programs to meet this period so that society may not again, as it did after the first World War, give up to disillusionment, skepticism, despair."

The N.C.C.W. has collaborated closely with the N.C.C.S., the Chaplain's Aid, the Red Cross, the O.C.D., the Office of Immigration, and the Women's Interest Division of the War Department's Public Relation department during the year in aiding these various agencies in their respective contributions to the war effort.

Through its committees on Press, Publicity, Study Clubs, International Relations, Inter-American Relations, Industrial Problems, Cooperation with Catholic Charities, and the Committee on Family and Parent Education, the N.C.C.W. continued its normal activities during the year. Its national convention was held at Hollywood, Fla., April 18-23, during which time over 500 delegates discussed subjects centering about the theme, "Catholic Women in the Service of God and Country."

### NATIONAL COUNCIL OF CATHOLIC MEN

The National Council of Catholic Men this year undertook to assist the National Organization for Decent Literature in its effort to curb the flow of indecent literature imperiling the morals of youth and adults alike.

An increase of 13% in the number of diocesan affiliations was recorded, the total affiliated membership units now being 1,788.

The Council aided materially in making the Bishops' War Emergency and Relief Collection a success, sending, among other things, letters to the 13,000 pastors in the United States.

The outstanding project of the N.C.C.M., the radio broadcast of the Catholic Hour was carried over 104 stations and involved the distribution of 977,400 pieces of literature. Since its inception in 1930, the Council has distributed 1,659,234 pamphlets containing 6,250,080 addresses and now has 107 pamphlets of these addresses in print.

### DEPARTMENT OF EDUCATION

In 1940, a total of 2,584,461 students was enrolled in 10,459 Catholic

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

schools of all classifications in the United States. Of these, 2,035,182 were in Catholic elementary schools, which had a total of 60,081 teachers in the 7,944 elementary schools—7,056 in parishes, 559 private schools, and 329 institutional. The Catholic high schools enrolled 361,123 students in 2,105 schools—1,021 in parishes; 727 academies; 167 central high schools; 10 institutional; and 180 not designated as to type. The graduates of Catholic high schools to the extent of 28.4 per cent entered college; 13.8 per cent went to business, normal or professional schools—nearly 43 per cent of the graduates, therefore, continued their education after leaving high school. On the university level, 161,886 students were enrolled in 25 universities, 137 senior colleges, and 31 junior colleges. The instructional staff in these 193 universities and colleges totaled 13,142 of whom 6,525 were religious teachers and 6,617 lay teachers. Catholic schools conferred 15,513 degrees—13,534 first degrees; 1,868 graduate degrees. Diocesan teachers colleges and normal schools had 8,468 students in 36 institutions. Major seminaries (for the priesthood) were attended by 8,110 students (1,134 instructors) and minor seminaries by 9,692 (1,133 instructors).

Practically all the energies of the Education Department have been absorbed by problems the war has created for the American schools, especially on the high school and college level. The uncertainty and vacillation of the policy of the governmental and military authorities on this whole problem adds to the confusion. An advisory committee to the Department was created in 1942 to aid it in coming to decisions regarding war policies.

### YOUTH DEPARTMENT

The war has caused certain major changes in the nature of the youth problem and has increased the difficulty of solving that problem. Three years ago the bulk of our youth were unemployed and cursed with long hours of leisure which they did not

use constructively. Today there are relatively few unemployed youth; wages are high, hours are long, and money, as a consequence, is plentiful. Many, almost 5,000,000, are in the armed services; many more toil in war production industries. The situation of three years ago has changed completely. Furthermore, the same causes operate to increase greatly the difficulty of securing adult sponsors and leaders for Catholic youth groups. For adults as well as youth find their working hours extended, their leisure curtailed by various civilian defense activities, and the like.

It is important not to be led into the false belief that the youth problem has been solved by the war. Certain aspects of it have been worsened many times precisely because of it. With acid truth government officials have declared that the only thing that is organized in the life of many of the new communities created by war industries is prostitution. The relaxation of standards of moral decency among the thousands of young workers now in the nation's capital alone is frightening.

The problem of intellectual and spiritual guidance of youth are no less important though less sensational than the moral problems. Our Catholic youth must not become mentally warped by irrational hatreds and fears of our enemies; they must not apostatize spiritually from the Mystical Body of Christ. The new social order that men hope and pray will come forth from the present chaos must be in a large part inspired by the faith and idealism and altruism of mentally and spiritually sound and wholesome youth. Indeed, there is a youth problem today, no less challenging and critical than that of three years ago.

### PRESS DEPARTMENT

The Press Department of the N.C.W.C. remains the only free Catholic worldwide newsgathering agency in the world. This past year it has initiated and developed a Latin-American press service, *Noticias Catolicas*, with 37 newspapers as

## THE EASTERN CHURCHES

subscribers at present and a rapidly growing list. The NC News Service now reaches 183 newspapers in 29 countries. It has carried many important Catholic war documents, corrected numerous falsehoods about the Church circulated by the secular press, and done excellent service in sifting many stories originating from European sources of doubtful authenticity.

### LEGAL DEPARTMENT

The work of the Legal Department reflects the larger dislocations caused by converting a nation at peace to a nation at war—the expansion of old industrial centers and the creation of new ones, the migration of labor, employment of women and consequent disruption of homes, the difficulties of priorities and transportation, the shortage of adequate hospital facilities and other similar, and by now familiar, readjustments.

Progress has been made in the effort to secure coverage for wage earners in private charitable and educational institutions under existing Federal social security, old-age and survivors insurance legislation. Medical and hospital service insurance as well as workmen's compensation presents a similar problem.

The vast and complex issue of taxation as an instrument of social reform, elsewhere mentioned, occupied much of the Legal Department's time and efforts. The anti-religious trend of recent policies and recommendations embodied in various important tax proposals remains not only a source of peril to all institutions of mercy and charity but, paradoxically,

to the ideal of freedom of religion so properly stressed as one of the major war aims of the nation.

The Legal Department also represented the Catholic interests in the efforts of Community Chests and Councils Incorporated in regulating the rash of war relief organizations that broke out over the nation in the past three years. The excessive duplication of public solicitations and waster of leadership talent involved has been curbed and considerable improvement and effectiveness developed in this worthy work.

### DEPARTMENT OF SOCIAL ACTION

In a multitude of ways the Social Action Department has continued its assigned task of diffusing Catholic social teaching upon economic, civic, and international life. By issuing pamphlets, holding industrial conferences of representatives of the public, labor and employers, by news letters and institutes, by speeches, special articles and correspondence and a variety of other media, the Social Action Department has reached millions of persons inside the Church and outside with its message.

Outstanding among its accomplishments in 1942 was the Inter-American Seminar, mentioned elsewhere. As in past years members of the Department have been asked to assist various governmental boards and committees, and have appeared before Congressional committees for or against proposed legislation. Its work has steadily progressed and continues to produce effective and beneficent results for the promotion of justice and order in our society.

## THE EASTERN CHURCHES

By E. R. HARDY, Jr.

GENERAL THEOLOGICAL SEMINARY, NEW YORK

### EASTERN CHURCHES AND THE WAR

A joint statement pledging loyalty to the Government and urging sup-

port by the Orthodox to all forms of the war effort of the United States was issued in June by the Greek and Syrian archbishops, the Serbian,



Ukrainian, and Carpatho-Russian bishops, the Exarch of the Patriarchate of Moscow, and the Administrator of the Romanian Episcopate. The Russian Orthodox Church of America also issued a similar statement. There were in America various observances of the days of prayer for Greece (May 10) and for Yugoslavia (Sept. 20) which were supported by the respective governments in exile and the representatives of their churches in London. There are by now many thousands of Orthodox young men serving in the armed forces of the United States. They are of course kept in touch with their home parishes as much as possible; as yet there is no direct provision of chaplaincy service for them.

#### **CHURCH SUFFERINGS IN OCCUPIED EUROPE**

In the occupied countries of Europe the Orthodox Churches continued to suffer. Most of the leaders of the Serbian Church in Yugoslavia have been interned. In Croatia the attempt to make the Roman Catholic Church an agent of Croatian assimilation was happily refused by its authorities, but has been succeeded by the formation of a so-called Croat Orthodox Church. In the Ukraine a former suffragan Bishop of the Polish Orthodox Church, most of which had since 1939 returned to its old allegiance to the Patriarchate of Moscow, was induced to proclaim a Ukrainian Orthodox Church. On March 27 the Synod of Moscow under the acting patriarch Sergius decreed the deposition of this bishop, Polikarp; this action was endorsed by the Patriarchs of Constantinople, Antioch, and Alexandria. The support given by the Russian Church to the national cause has resulted in friendlier relations with the government. An interesting manifestation of this is the appointment of Metropolitan Nicolai of Kiev to a commission appointed to estimate property losses in territories recovered from Nazi occupation, presumably with particular view to church property. In Bulgaria the Metropolitan of Sofia was attacked in

pro-German publications for his protest against Nazi proceedings in Yugoslavia. Bishop Gorazd Pavlik of Czecho-Slovakia and several of his priests were executed on the charge of concealing fugitives, and the suppression of their Czechoslovak Orthodox Church was decreed in September. Shortly afterwards the Patriarch Nicodim of Rumania, finding his position increasingly difficult, resigned and was put under house arrest after protesting against anti-Jewish measures; Metropolitan Nicolai of Sibiu (Transylvania) has taken his place as acting patriarch.

#### **HELLENIC (GREEK) ORTHODOX CHURCH**

The Eighth Convention of Clergy and Laity of the Greek Orthodox Archdiocese of North and South America was held at Philadelphia June 22-26. King George II of Greece was received at the opening service, and he and his Prime Minister afterwards addressed the Convention. The Ecclesiastical Convention was as usual accompanied by the meeting of various affiliated church organizations. Action taken included the enlargement of the executive council of clergy and laity to 17, the voting of an annual registration of all adult Orthodox Greeks and an assessment of \$1 per person to the funds of the Archdiocese, and a revision of the rules governing the educational work of the Church.

Events of interest during the year included the presence of both Archbishop Athenagoras and his suffragan, Bishop Germanos, at the Epiphany service and blessing of the waters at Tarpon Springs, Fla., the moving of the headquarters of the Archdiocese from Astoria, Long Island to 79th Street, New York City, and a Doxology in greeting to King George at the Cathedral in New York on June 21. The Holy Cross Theological School at Pomfret, Conn., of which Bishop Athenagoras of Boston is head, graduated its first regular class in June. Of the nine graduates five have been ordained to the priesthood and the others are serving as deacons. Bishop

## THE EASTERN CHURCHES

Eirinaios of San Francisco has been in bad health, but is returning to his post. The Church continued to support Greek War Relief, as well as general American campaigns; at Easter, collections were taken up for the rebuilding of the Patriarchate at Constantinople, damaged last year.

The Metropolitan Germanos of Thyatira celebrated in June his twentieth anniversary as Exarch for Western Europe of the Patriarch of Constantinople, and representative of the Oecumenical Patriarch in relations with the Church of England and inter-church movements. He was on this occasion the first recipient of the Lambeth Cross, a decoration bestowed by the Archbishop of Canterbury on foreign ecclesiastics who have contributed notably to Christian solidarity. On the occasion of his enthronement on April 23 Archbishop Temple addressed a letter of fellowship to the Oecumenical Patriarch, Benjamin I, a reply to which was received through Metropolitan Germanos in September.

### RUSSIAN ORTHODOX CHURCHES

The Sobor (Convention) of the Russian Orthodox Church, scheduled for October, was postponed on account of war conditions. The Episcopal Sobor and Metropolitan Council (of clergy and laity) met, however, to deal with the current business of the Church, and Metropolitan Theophilus of San Francisco made a visitation of the East in the fall. The first student of St. Vladimir's Seminary (revived in New York some years ago) to complete his course was ordained; Bishop Sava of Grodno, in Poland, is acting as instructor at the Seminary, as well as chaplain of Reed Farm near Nyack, N. Y., maintained by the Tolstoy Foundation as a rest center for refugees and summer camp for children. The 450th anniversary of the death of St. Sergius, founder of the Trinity Monastery near Moscow and "Abbot of All Russia," was celebrated with services and meetings under the auspices of the Friends of the St. Sergius Seminary in Paris.

### UKRAINIAN AND SERBIAN CHURCHES

In December the Ukrainian Orthodox Church was admitted to membership in Federal Council of Churches. It thus becomes the second Orthodox Church to join the Council, the Syrian Church having belonged for some years. The Serbian Church has announced a plan to move its headquarters to New York from Libertyville, Ill.; Trinity Chapel on 25th Street is being acquired from Trinity Church and will become the Serbian Cathedral.

### OTHER EASTERN CHURCHES

The Armenians gave much of their energy during the year to the support of Armenian War Relief. Abroad, it was impossible to hold elections, not only for the office of Catholicos of All Armenians, but also for the second position in the hierarchy, that of Catholicos of Cilicia, vacant by the death of the incumbent in the summer.

Mar Shimun XXIII, Catholicos of the Assyrian (Nestorian) Church, has established his headquarters in Chicago, where there is a considerable Assyrian colony. Plans are under way for building a church there in traditional Assyrian style. The remnant of the Assyrians in Irak and Syria are reported to be in somewhat better circumstances than formerly, and it is hoped to re-establish schools among them.

On June 22 John XIX, Patriarch of Alexandria and head of the Coptic Church, died at Cairo. His 14 years in office had been largely devoted to cautious advance in the organization of the Church in Egypt and the recognition of the autonomy of the Abyssinian Church. Since the recovery of Ethiopian independence, the Primate has returned to that country and is reviving church life, disorganized under the Italian occupation.

### HISTORICAL NOTES

Information of great value for the history of the Eastern Churches in America is made available in the

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volume of the Inventory of Church Archives in New York City (Historical Records Survey; W.P.A.) devoted to Eastern Orthodox Churches and the Armenian Apostolic Church. Several of the Eastern Churches have headquarters in New York and most of the others are represented by parishes there, so that the introductions to the various sections of this volume deal with most aspects of the history of the Eastern Churches in America. The troubles springing from the last war are reflected in the divisions within the Syrian Church prior to the election of the present Archbishop, Anthony Bashir, in 1936, and the several jurisdictional divisions of the Russian Church. Most of these are now reunited under Metropolitan Theophilus; but some parishes adhere to the Metropolitan Benjamin, Ex-

arch of the Patriarchate of Moscow for America, or the group under Archbishop Adam known as the Carpatho-Russian Diocese (not to be confused with the Carpatho-Russian Church, under the jurisdiction of Constantinople, whose Bishop resides at Bridgeport, Conn.). The group commonly known as the "Living Church" acquired possession by a court decision in 1925 of the former Russian Cathedral in New York and the records of the Russian Archdiocese, but has never had any great following among Russian Orthodox in America. There are also independent groups among the Greek and Rumanian Orthodox, but the greater number of Orthodox Christians in America are now duly organized under their respective ecclesiastical bodies.

## JUDAISM AND JEWISH COMMUNAL AFFAIRS

BY HARRY SCHNEIDERMAN

EDITOR, *The American Jewish Year Book*

### GENERAL

The organizational activities of the Jewish community during 1942 were oriented to meet the demands of the war effort of the nation. The Jewish communal organizations not only carried on their routine activities but also shouldered the many additional burdens imposed upon them by America's entry into the war. Service to men in the armed forces was one of the most important of such tasks. This was carried on nationally by the Jewish Welfare Board and locally through the Y.M.H.A.'s, community centers, synagogues, and other local institutions. At the same time, the facilities of national and local agencies were placed at the disposal of the Government in connection with the various civilian defense activities.

The spiritual issues of the war and the problems of post-war reconstruction also came in for a great deal of consideration and study on the part of religious bodies and research agencies.

### NAZI PERSECUTION

Although preoccupied with their domestic problems, American Jews made plain their expression of shock and horror at the mass murders and inhuman tortures of Jews in Nazi-held territory. Mass deportations and murder took place in all the countries under Nazi domination, and it became clear during 1942 that the Nazis were actually carrying out their oft-repeated threat of exterminating all the Jews in Europe. These events were reported frequently, but their full significance did not dawn upon the general public until the close of the year when the extent as well as the details of the Nazi atrocities were made public by the Polish Government-in-Exile, the World Jewish Congress, and reports originating from reliable underground sources and refugees who had escaped from the Nazis.

On Dec. 8, a full report of the Nazi atrocities was delivered to President Roosevelt by a delegation of Jews

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representing the American Jewish Committee, American Jewish Congress, B'nai B'rith, Jewish Labor Committee, and the Union of Orthodox Rabbis of the United States and Canada.

The response to these disclosures was a mighty outcry of protests, indignation and mourning on the part of Jews and non-Jews, of press and church, of officials and leading citizens in all free countries. President Roosevelt expressed his profound sense of shock at the Jewish tragedy in Europe and declared that the American people would hold the Nazi perpetrators of these crimes to strict accountability. Eleven of the United Nations, including the governments of the United States, Great Britain, and Soviet Russia, issued a statement condemning "in the strongest possible terms the bestial policy of cold-blooded extermination." Jews in all free countries observed a Day of Mourning through fasting, prayers, and assemblies in which they gave expression to their grief for the Jewish communities of Europe. Heads of the Christian religion, both Catholic and Protestant, appealed to world conscience to rise in sympathy with the martyred Jews. Labor in many countries stopped work and decent people everywhere asked for retribution and justice.

### OVERSEAS RELIEF

In the face of the Nazi policy of persecution it was clear that American Jews could do very little to assist the stricken Jewish communities overseas. Nevertheless, they did not desist from their relief efforts, despite the magnitude of the task and the additional hardships imposed by America's entry into the war.

As in the previous three years, the United Jewish Appeal was again the principal fund-raising instrument of American Jews for overseas relief and rehabilitation, Palestine reconstruction, and refugee assistance in the United States. The three beneficiary organizations were the American Jewish Joint Distribution Committee (JDC), United Palestine Ap-

peal (UPA), and National Refugee Service (NRS). During the 1941 campaign these agencies received allotments amounting to \$5,831,000 for the JDC, \$3,493,750 for the UPA, and \$2,875,000 for the NRS.

The Joint Distribution Committee, largest Jewish relief agency, issued a number of reports during the year which revealed the extent of its activities in the face of wartime obstacles and restrictions. On Aug. 4, it reported the expenditure of \$9,285,000 during 1941 and the first five months of 1942 for the evacuation of 5,000 men, women, and children from Europe, for medical supplies and food for Polish refugees in Asiatic Russia, for aid to refugees in unoccupied France, Latin America, North Africa, Portugal, Spain, Sweden, and Switzerland. A report issued in September gave a summary of figures for the JDC activities during the three years of this war. Since September, 1939, the JDC aided nearly 1,000,000 persons each year, made possible the emigration of 93,000 Jewish refugees from Europe, sent medical help to 300,000 Polish-Jewish refugees, and gave relief to 60,000 Jewish refugees in unoccupied France. Its total allocation for the year 1942, as reported on Dec. 1, was \$7,250,000. In the expenditure of its funds overseas, the JDC employs a special "Clearance Transfer" system, in order that no foreign exchange would fall into the hands of the Nazis.

Important work was also done by the Hebrew Sheltering and Immigrant Aid Society (HIAS). During the 18-month period ended December 1941, HIAS expended more than \$2,000,000 in giving assistance to 25,000 men, women, and children. Much of this work was done in collaboration with its European affiliate, HIAS-ICA. About 10,000 refugees received transportation and assistance, half of them having been removed from concentration camps in unoccupied France. The activities of HIAS in this country included the answering of 545,000 inquiries, meeting 706 ships, and such special services as supplying 165,000 kosher meals and



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34,000 nights of shelter to 12,500 refugees. These figures were revealed by Isaac Asofsky, director of the HIAS, at its annual meeting in March.

Recognizing that Palestine was the major haven for the persecuted Jews of Europe, American Jews continued on a generous scale their support of Palestine institutions. A record of these activities was revealed in September by the United Palestine Appeal, principal American fund-raising agency for Palestine. For the three years since the outbreak of the war in Europe, American Jews, through the UPA, had made possible the immigration of more than 30,000 homeless Jews to Palestine, the establishment of 20 new agricultural colonies and 400 new factories, and the purchase of 165,000 dunams of land (about 38,000 acres).

### THE JEWISH WAR EFFORT

On the military and civilian fronts, individually and through their organizational activities, the Jews of America participated wholeheartedly in the war effort of the nation. The first year after Pearl Harbor found thousands of Jews in active service on all fronts of the war, with many of them the recipients of awards and citations for heroism in almost every major encounter. Among the men of Jewish faith who achieved special distinction in combat were Meyer Levin of New York, who held the decorations of Distinguished Flying Cross and Silver Star for his exploits as a bombardier in the Pacific Theater; Lieut. Henry D. Mark of Los Angeles, who received the Distinguished Service Cross after losing his life while throwing grenades at a Japanese tank on Bataan; Lieut. Commander Solomon Isquith, who commanded the target ship *Utah* at Pearl Harbor; Ensign Ira Jeffery of Minneapolis, who lost his life on board the battleship *California* and whose name will be given to a new destroyer in process of construction; Radioman David Goodman of New York, who won the Silver Star and Oak Leaf Cluster as a member of the famous Philippines Mosquito boat squadron,

made famous by W. L. White in his *They Were Expendable*; Lieut. Morris N. Friedman of Grand Forks, N. D., pilot of a Flying Fortress bomber, who was twice decorated; and many others.

The knowledge of the services being rendered in defense of their country by American Jews, fighting alongside their comrades of other faiths, served as an important stimulus to the morale of the American Jewish community. They received encouragement from the realization that "they were helping to strike powerful blows in defense of America, from the feeling that they are a part of the spiritual and physical unity of the nation—a most heartening refutation of the whole Hitler thesis." ("Our Military Record: the First Year," by Milton Weill, *Contemporary Jewish Record*, December, 1942.)

### CIVILIAN DEFENSE ACTIVITIES

In response to the defense needs of the country, Jewish religious, philanthropic, fraternal, and cultural organizations oriented their programs for the purpose of stimulating Jewish community participation in civilian defense activities and in the work of the Red Cross, the USO, and the various war-connected appeals. These activities included the selling of war bonds, organization of metal scrap collecting and blood donation campaigns, and many other voluntary civilian defense activities.

Such services can not adequately be measured, but a few statistics of the purely organizational activities will be of interest. It was revealed on Dec. 1 that the B'nai B'rith and Aleph Zadik Aleph (Junior B'nai B'rith) organizations had sold \$22,000,000 worth of war bonds, collected 5,250,000 pounds of scrap metal, entertained 650,000 service men, presented 160 Torah Scrolls for use in Jewish religious services in the army, gave 20,184 blood donations, and enrolled 47,109 of their members in voluntary civilian defense jobs. The Jewish War Veterans sold bonds amounting to more than \$20,000,000. Conducted a campaign for six P-39 Airacobra

## JUDAISM AND JEWISH COMMUNAL AFFAIRS

fighting planes, gave 40,000 blood transfusions, and collected hundreds of tons of scrap. The United Jewish War Effort undertook, on Oct. 1, a campaign to purchase and sent 1,000 fully equipped medical field units to Russia, at a cost of \$2,000,000.

### RELIGIOUS AND WELFARE WORK

The Jewish agency entrusted by the Government with the task of looking after the religious, recreational, and personal welfare needs of Jewish men in the armed forces is the Jewish Welfare Board, which is a constituent of the USO. At the end of 1942, the JWB was operating with the aid of 350 local Army and Navy committees organized by the Jewish communities in localities adjacent to military camps and naval stations. Eighteen of the committees were serving at overseas points. A total of 220 full-time professional workers were in the service of the Board.

The Jewish Welfare Board, through its Committee on Army and Navy Religious Activities, supervised the Jewish religious work in the armed forces. This Committee, on which the Conservative, Orthodox, and Reform wings of Judaism are represented, has the responsibility for recommending chaplaincy candidates to the War and Navy Departments, for the preparation of religious materials and for the rendering of spiritual guidance to soldiers and sailors. At the close of the year, over 100 rabbis were in service as chaplains, here and abroad. The Committee expanded and revised the prayer book used in the First World War, distributing over 200,000 copies, issued a special prayer book for Jewish holidays and a revised abridged edition of the Bible, and also distributed various religious articles, such as phylacteries, prayer shawls, chaplain's manuals, pamphlets on religious subjects, etc. Through the contacts established in this way thousands of Jewish young men not otherwise reached by the rabbis were brought closer to the influences of the synagogue, producing

a salutary effect which it is hoped will remain in post-war days.

### SYNAGOGUE ACTIVITIES

The coming of war brought with it new internal problems for the synagogue and an enhanced opportunity for service. In addition to the religious work reviewed above, the synagogue and rabbinical organizations carried on their normal religious and educational activities. They also held annual conventions and special conferences which gave them opportunities for the interchange of opinion and the formulation of public pronouncements on vital issues.

Evidence of concern over neglect of the observance of the sabbath was shown in many quarters. On Feb. 8-9, the Sabbath problem was discussed at a conference of orthodox rabbis and communal leaders called by the Mizrahi Organization. The Sabbath Congress was set up as a permanent body to conduct an educational campaign in connection with Sabbath observance.

The 36th Annual Convention of the Union of Orthodox Rabbis of the United States and Canada, held at Atlantic City, N. J. in June, discussed *Kashruth* (ritual dietary observances), the maintenance and establishment of *Yeshivoth* (seminaries), and the resettlement of refugee rabbis and scholars. Both the Rabbinical Council of America and the Union of Orthodox Jewish Congregations of America met concurrently in New York on June 28-29. The latter affirmed the reorganization of the Rabbinical Council of America which took place toward the end of 1941, and subscribed to the view which limited the Union to be a strictly lay organization and placed all religious matters within the domain of the Rabbinical Council, acting for the Union. At the convention, William Weiss, after ten years in office, retired from the presidency and was elected honorary president, being succeeded by Samuel Nirenstein.

The year 1942 also saw the completion of the long-time project of the Union of Orthodox Jewish Con-

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gregations when the Commission on Jewish Education published its model curriculum for orthodox Hebrew schools. The first national convention of the National Union of Orthodox Jewish Youth was held in conjunction with the meeting of the parent organization on June 29.

### MAINTENANCE OF FOREIGN JEWISH INSTITUTIONS

The Jewish Theological Seminary held a conference in Chicago in April at which lay and rabbinical leaders of conservative congregations considered the responsibility of American Jews to maintain Jewish institutions abroad. A program was adopted looking toward enlarging the seminary library and museum, providing training for rabbis and teachers who serve Jews in South America, training executives for federations and community centers, establishing a bureau of Jewish information, intensifying of adult education, establishing of a School of Jewish Music, assisting young men to prepare for rabbinical training, and publishing a prayer book with a comprehensive commentary and modern translation. In October the Seminary took the initiative in summoning another conference of representatives of congregations in order to discuss efforts for the strengthening of religion. The call to this conference was issued by the then Governor of New York, Herbert H. Lehman.

The Reconstructionist Movement led by Dr. Mordecai M. Kaplan issued during the year a platform and a tentative guide for Jewish ritual life. Though adversely criticized in some conservative circles, this program won the attention of a growing number of reform rabbis. The impact of these ideas was evident at the convention of the Rabbinical Assembly in New York, June 29 to July 1, when Dr. Robert Gordis, newly elected vice-president, expressed the opinion that rabbis should create instruments for changes in Jewish tradition when those changes are necessary. Dr. Gordis warned, however, that the character of Jewish law

should be determined by those who recognize its authority. The Rabbinical Assembly endorsed the establishment of an international authority through a Federal Union as a basis for lasting peace. It called for the establishment of a Jewish commonwealth in Palestine, as well as of a Jewish fighting force to defend Palestine and the Near East, under the command of the United Nations.

### REFORM MOVEMENTS OF LIBERAL JUDAISM

The Central Conference of American Rabbis, which previously had issued a program looking toward the abolition of war and the establishment of a permanent peace, followed this plan in January 1942 with a demand for full equality for Negroes, pointing out the Jewish belief in the equality of all races. The discussions at the Cincinnati meeting of the Conference held February 24 to March 1 centered around the problem of revitalizing liberal Judaism. The conference adopted a resolution calling for the creation of a representative American Jewish Congress based on local community councils, to negotiate with the United Nations on behalf of Jews. Other resolutions urged the merger of the Jewish Institute of Religion and Hebrew Union College, called upon the Synagogue Council of America to establish local synagogue councils, and convoked a joint meeting of orthodox, conservative, and reform rabbis in Atlantic City during June of 1943.

The Conference took affirmative action on a pension plan for its members. This action was promptly concurred in by the Union of American Hebrew Congregations which submitted its plan to its congregations for ratification. A storm was raised by the Conference's approval of a resolution in favor of a Jewish army. As a result, about 60 members violently denounced this action as a capitulation to Zionism. A little more than one third of the group met at Atlantic City June 1-2 and issued strong anti-Zionist statements in protest against this action. The anti-

## JUDAISM AND JEWISH COMMUNAL AFFAIRS

Zionist element in the Reform rabbinate was subsequently given organizational expression in the formation of the American Council for Judaism (see section "Zionism").

### POST-WAR PRINCIPLES

In December, leading rabbis and laymen participated in a round-table at Cincinnati, called by the Central Conference of American Rabbis, under the title of American Institute on Judaism and a Just and Enduring Peace. The purpose was to formulate a post-war program "in the light of the teaching of Judaism." Warning against "morally debasing hatreds and spiritually stultifying vengeance," they urged the following principles: universal recognition of the sovereignty of God, the Creator of all; application of the Bill of Rights to all men, ending all colonial empires and abolishing racial and class distinctions; creation of an international organization; gradual universal disarmament and establishment of an international police force; free access to natural resources, full utilization of technological inventions, and abolition of poverty and insecurity; a world court; and, finally, international cooperation in rebuilding the war-torn areas. More immediately, they pressed for the creation of a "World Council of Christianity and Judaism," and the establishment of a Jewish homeland in Palestine after the war.

### SYNAGOGUE COUNCIL OF AMERICA

The Synagogue Council of America, in which the three wings of the Synagogue are represented, was active during the year, especially in voicing the opinions of religious groups on matters on which there was unanimity of feeling. Thus, the Council issued a pronouncement voicing the devotion of the Jews to the cause of the nation at war. It also expressed its protests against the causes which led to the S.S. *Struma* disaster, and against the Nazi persecutions of Jews in Europe. The Council proclaimed *Tisha B'av*, July

23, as a day of mourning and received messages of sympathy from Catholic and Protestant religious groups in the country.

In addition to issuing important pronouncements the Council, Nov. 20, announced the completion of a survey of 450 Jewish religious textbooks, which had been under way for several years. The Council reported that there were only 43 passages which were unfriendly to other faiths and which required revision.

Four American congregations celebrated their centenaries during the year—Har Sinai Congregation of Baltimore, May 4; Temple Covenant of Peace in Easton, Pa., Nov. 20; Temple Ohabei Shalom in Boston Dec. 5; and Congregation Rodeph Sholom in New York Dec. 11.

### EDUCATION

Jewish educational activities during the year may be divided into three groups: National organizations; organizations working with youth and college students; local bureaus of Jewish education and centralizing agencies.

Activities of national agencies showed considerable advances. On May 16, the American Association for Jewish Education, meeting in Baltimore, reported the publication of a series of six pamphlets for distribution to the armed forces, the first one entitled "The Story of the Jews in the United States"; nine regional conferences held in all parts of the country on Jewish education; the opening of an annual national campaign to increase enrollment in schools; creation of a national Board of Licenses for Teachers of Week-Day Schools; local Jewish education surveys and the extension of professional services to individual communities; cooperation with the International Committee for Post-War Educational Reconstruction; and securing greater financial support from local welfare funds and federations.

Jewish educators from 22 states gathered in Rochester June 4-9 to attend the 17th annual conference of the National Council for Jewish Ed-



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

ucation and discussed war and post-war problems in the field. This conference considered such aspects of the problem as the role of democracy in Jewish education; the effects of war on attendance, finances, and personnel; professionalization of Jewish education, and teacher training.

On Sept. 10 a manifesto signed by officials of 12 leading Jewish organizations, ushered in Jewish Education Month in an effort to increase enrollment of children in Jewish schools. Of particular importance is the nationwide program of adult education launched Nov. 1 by the Jewish Theological Seminary through the National Academy for Adult Jewish Studies. This program consists of more than 100 institutes reaching into 30 states and 100 communities.

Hadassah maintained its policy of teaching through the network of small study groups which are part of its 700 chapters. The most recent educational project is a symposium on contemporary Jewish life, entitled *The American Jew—A Composite Portrait*, published by Harper.

The Jewish Publication Society expanded its work, and the Press of the Society published hundreds of thousands of prayer books and Bibles for men in the armed services in cooperation with the Jewish Welfare Board.

Growth was also reported by the organizations dealing with youth and college students. The Hillel Foundation of the B'nai B'rith added 15 units, including the one at Hunter College in New York. This was established in the former home of President F. D. Roosevelt which was purchased for this purpose by B'nai B'rith and turned into the Sara Delano Roosevelt House for use of Catholic, Protestant, and Jewish groups. Denominational directors will serve the House. Similar expansion was reported by youth groups, including Hashomer Hatzair, Masada, Habonim, Junior Hadassah, Aleph Zadik Aleph (Junior B'nai B'rith), and Young Judea.

Local educational agencies concerned themselves with the same problem as those affecting the na-

tional organizations—changes in enrollment, widening the scope of Jewish education, professionalization, improvement of instruction and administration, experimentation in curriculum and methods, publication of texts, training of teachers, extension work, development of secondary education and financial support of, and propaganda for, Jewish education.

By and large, increases in enrollment were slight. Enrollment in schools represents about 27 per cent of Jewish youth while at least 75 per cent of youth at one time or another attend a Jewish school for varying periods. Increases in enrollment were found mainly in congregational schools and *Yeshivoth*. The one-day-a-week schools showed a tendency to increase the days of instruction while the five-day-a-week schools tended to decrease to three days a week.

### ZIONISM

In the Zionist sphere there were a number of major developments. The first was the united front presented by Zionist organizations on the question of Palestine as a Jewish commonwealth. The major American Zionist groups—Zionist Organization of America, Hadassah (Women's Zionist Organization), Poale Zion (Labor Zionists) and Mizrachi (Orthodox Zionists), all of them represented in the American Emergency Committee for Zionist Affairs met in New York May 9-11 and adopted a resolution which called for the fulfillment of the Balfour Declaration, rejection of the British White Paper of May 1939 restricting Jewish immigration to Palestine, and establishment of a Jewish National Home there. These principles were reaffirmed at the annual conventions of the Zionist Organization of America and Hadassah on Oct. 17. These organizations requested that Palestine be established as a Jewish commonwealth "integrated into the structure of the democratic world" and that the Jewish Agency take control of immigration into Palestine. The resolutions also were emphatic in their op-

position to the views expressed by Dr. Judah L. Magnes, president of the Hebrew University at Jerusalem, who had led in the formation of a *Ihud* (Unity) faction on a platform of a joint Arab-Jewish state in Palestine.

## AGITATION FOR A JEWISH ARMY

The question of a Jewish Army came in for a great deal of discussion. The attack of Marshal Erwin Rommel's Afrika Korps driving almost to Cairo, focused attention on Palestine and brought into sharp relief the danger facing that community. Zionist organizations were unanimous in their official pronouncements favoring the establishment of a separate Jewish army under Allied command. This position was expressed in the political conference in May and in the conventions in October, referred to above. The removal of the immediate threat to Palestine after Rommel's defeat in November did not alter the position of the Zionists. Thus, in December, the Zionist principles, including the demand for a Jewish army, were reaffirmed in a resolution adopted at the Conference of the National Council for Palestine of the United Palestine Appeal.

Jewish groups outside the regular Zionist circles were also active in the agitation for a Jewish army. Chief among them was the Committee for a Jewish army under the chairmanship of Pierre Van Paassen, which promoted its campaigns through newspaper advertising, public meetings, radio speeches, and other media of mass appeal. Support for the Zionist demands came from many non-Jewish quarters, including clergymen, members of Congress and other public officials and leaders of opinion.

During the year the British Government relaxed somewhat its position against the Jewish army. First, it permitted the enlistment of Palestine Jews in the regular British army in the Middle East and subsequently it formed Jewish battalions in the Palestine armed forces.

The position taken by Zionist

groups by no means represented the unanimous opinion of the Jews of America. There were large and important segments of opinion which opposed official Zionist policy, particularly the demand for a separate Jewish army, regarding such demands unwise and prejudicial to the position of the great majority of Jews who are nationals of countries other than Palestine. The most violent opposition came from a group of reform rabbis who issued a militant declaration repudiating Zionism on the ground that it was inconsistent with Jewish religious and moral doctrines. On Dec. 11 they announced the establishment of a special organization, an American Council for Judaism. This action was countered with a statement signed by 750 rabbis, including the heads of all the national rabbinical associations. Severely rebuking the "protest rabbis," the statement branded anti-Zionism as "a departure from the Jewish religion."

An important event commemorated by Zionist organizations in November was the 25th anniversary of the issuance of the Balfour Declaration.

## QUEST FOR A PALESTINE PROGRAM

Despite this manifestation of internecine discord, the most important segments of non-Zionist opinion were engaged in discussions with Zionist leaders with a view toward reaching an agreement on a common Palestine program. No agreement was reached as the year came to a close. Nevertheless, a concrete instance of co-operation was the common action of Zionist groups, together with the American Jewish Committee and B'nai B'rith, in protesting to the United States Government against the tragedy of the S.S. *Struma*, a ship laden with refugees forbidden to enter Palestine which sank in the Mediterranean in February with a loss of over 700 lives. The delegation requested the United States Government to use its good offices with a view to influencing the British Government to take measures for

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

the elimination of such conditions as those which led to this great tragedy.

### SOCIAL WELFARE

The Welfare Fund movement continued to gain ground. The 1942 Directory of the Council of Jewish Federations and Welfare Funds listed 267 cities comprising about 94 per cent of the estimated total Jewish population of the United States, which had central agencies for the coordination and financing of Jewish welfare programs. Gains were made largely in the organization of small communities and in the extension of the scope of activity of existing agencies. Attempts were made to provide such communities needed social welfare and cultural facilities through affiliation with larger metropolitan organizations and by means of inter-city cooperation.

One of the major problems facing the Jewish Welfare Funds was the question of merger with general community war chests. By the end of the year a number of larger communities had joined such war-connected appeals, while preserving their independence in budgeting the needs of their beneficiaries.

For the year 1941, Jewish federations and welfare funds in 97 communities appropriated a total of \$22,474,808 for various Jewish local, regional, national, and overseas programs, 45.5 per cent for local activities and 46.8 per cent for extra local needs. As in previous years, Jewish Welfare Funds and United Jewish Appeals provided the sums necessary to continue overseas and related refugee and cultural programs, while many local Jewish social services were financed partially or wholly by the non-sectarian community chests.

Such factors as higher taxes, economic dislocations, and loss of leadership and manpower to the military services and civilian defense were beginning to affect the financing of Jewish welfare needs. In the spring and fall 1942 campaigns, there was a noticeable decline in "big gifts." Many communities, however, succeeded in broadening their base of support by

enlisting small and medium contributors.

### REFUGEE SERVICE

Service to refugees was changed in emphasis as a result of the war. The first six months of 1942 showed 3,600 refugee admissions to the United States as contrasted with 8,600 in the last six months of 1941. Furthermore, better economic conditions helped some of the refugees already here. For example, the National Refugee Service reported on Dec. 1 that 5,445 refugees had been placed, many of them in war work. On the other hand, National Refugee Service was almost stopped in its efforts at resettlement of refugees away from metropolitan centers by restrictions on movements by enemy aliens. As a result of the decline in immigration and the improvement in the labor situation, the program of the National Refugee Service underwent a change from regional resettlement to migration work and community guidance and the integration of such work with HIAS and the National Council of Jewish Women.

### OCCUPATIONAL ADJUSTMENT

A significant development in the field of occupational adjustment was the action taken by the President of the United States and important Federal officials and state and local legislatures in combating discrimination against members of minority groups. From all the agencies concerned with securing manpower to man the nation's war industries came warnings that all such prejudice and discrimination "must be forgotten in the national interest." Jewish agencies active in vocational adjustment coordinated their efforts through the Jewish Occupational Council in cooperating with the President's Committee on Fair Employment Practice and the U. S. Employment Service, as well as to industrial organizations seeking labor for war factories.

### ANTI-SEMITISM

The energetic and effective steps taken during the year by the Federal



## JUDAISM AND JEWISH COMMUNAL AFFAIRS

Government in apprehending Axis agents resulted in a considerable decrease in overt organized anti-Semitism, which had been largely inspired and directed by Nazi Germany during the years preceding Pearl Harbor.

Anti-Semitic agitators had a hard year, many of them being convicted of sedition and sentenced to jail terms ranging from less than a year to more than 15 years. Among the first were George Sylvester Viereck, Nazi propagandist, who had been connected with the anti-Semitic publication *Today's Challenge*, and William Dudley Pelley, head of the Silver Shirts, whose publication, the *Galilean*, was banned by the Post Office in March 1942. Pelley was sentenced to 15 years for criminal sedition on Aug. 5. In the course of the testimony in the Viereck trial significant revelations were made concerning his connections with Hitler's Germany and the assistance which he had received in the dissemination of his propaganda from certain pre-war isolationist Congressmen and anti-Semitic agitators. Other agitators convicted were such men as George Christians of the Crusader White Shirts, Ellis O. Jones and Robert Noble, Ralph Townsend, Editor of *Scribner's Commentator*, and Count Anastase Vonsiatsky, Russian Fascist.

In May, Father Charles E. Coughlin's *Social Justice* was discontinued after the Post Office had ordered it to show cause why its mailing privileges should not be revoked. The Post Office also took action against such publications as Court Asher's *X-Ray*, John Scott's *Money*, E. J. Garner's *Publicity*, and William B. Kullgren's *Beacon Light*. An important step in the stamping out of sedition was taken on July 23, when a Federal Grand Jury handed down indictments against 28 individuals for "conspiracy to circulate publications designed to promote revolt and disloyalty among the armed forces of the United States." Among those indicted were William Dudley Pelley, Elizabeth Dilling, Edward J. Smythe, Col. Eugene N. Sanctuary, Leon de Aryan,

E. J. Garner, Charles B. Hudson, Court Asher, Robert E. Edmondson, James True, William B. Kullgren, David Baxter, and Oscar Brumback—all pro-Nazi pamphleteers who had constantly promoted anti-Semitism.

The steps taken by Federal law enforcement agencies did not mark the end of anti-Semitic agitation. In September, Dr. Everett R. Clinchy, president of the National Council of Christians and Jews, warned that, while Axis propaganda had largely failed, nevertheless the war had not eliminated subversive elements but had only "compelled them to make their approach more subtle." Two reports, issued in October, gave additional evidence of the existence of anti-Semitism. The Massachusetts Committee on Public Safety revealed that false rumors about Jews ranked third in frequency, following anti-administration and anti-military rumors. A survey by the *New York Herald Tribune*, made public in the same month, disclosed that, more than ten months after Pearl Harbor, anti-Semitic, anti-war, and pro-Axis publications were still active in America. Furthermore, many such publications were of recent origin, issued by the very persons indicted in July for spreading fascist propaganda.

There was an increasing awareness during the year on the part of the press and public of the role played by anti-Semitism in the Nazi propaganda strategy. President Roosevelt himself, in his speech of Jan. 6, 1942, explicitly warned the American people against succumbing to this Nazi hate propaganda. Other public officials, church spokesmen, and leaders in public life called upon the American people to combat anti-Semitism and other forms of disunity agitation. Another factor contributing to the increasing public revulsion against anti-Semitism was the unfolding during the year of the full terror of Nazi persecution against the innocent peoples of Europe, Jews and non-Jews alike. The Nazi killing of hostages, their mass deportations and murders of



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

Jews, evoked unanimous expressions of protest and sympathy in this country and resulted in an increased recognition of the insidiousness of hatred against other religious and cultural groups and the brutality and inhumanity to which such hatred can lead. The Federal Council of Churches, American Unitarian Association, National Catholic Welfare Conference, the American section of the World Council of Churches, and other religious bodies, gave public expression during the year of their abhorrence of the Nazi persecution of Jews and their opposition to anti-Semitism in all its aspects.

A strong positive influence militating against the acceptance of anti-Semitism was the dedication of all Americans to the supreme task of defeating the common enemy. Cooperation in the war effort opened up new avenues of inter-faith endeavor and presented numerous opportunities for the spread of mutual understanding among all groups. The lies of Axis propagandists that Americans were hopelessly disunited and torn by interracial conflicts were given their conclusive reply by the living example of American unity on the firing line, in the factory, and in civilian defense efforts.

### PERIODICAL PUBLICATIONS

*Advance* (Congregational)

14 Beacon Street, Boston.

*America* (Jesuit)

53 Park Place, New York City.

*American Hebrew*

48 West 48th Street, New York City.

*Catholic Action*

1312 Massachusetts Ave., N.W., Washington, D. C.

*Catholic Review*

21 West Franklin Street, Baltimore, Md.

*Catholic World*

401 West 59th Street, New York City.

*Christendom*

297 Fourth Ave., New York City.

*Christian Advocate*

150 Fifth Ave., New York City.

*Christian Century*

95 Madison Ave., New York City.

*Christian Herald*

419 Fourth Ave., New York City.

*Christian Leader* (Universalist)

16 Beacon Street, Boston.

*Christian Register* (Unitarian)

25 Beacon Street, Boston.

*Churchman, The* (P.E.)

425 Fourth Ave., New York City.

*Church Management*

Auditorium Bldg., Cleveland, O.

*Commonweal, The* (R.C.)

386 Fourth Ave., New York City.

*Contemporary Jewish Record*

386 Fourth Ave., New York City.

*International Journal of Religious Education*

203 N. Wabash Ave., Chicago.

*Living Church* (P.E.)

744 North Fourth Street, Milwaukee, Wis.

*Lutheran Herald*

425 S. Fourth Street, Minneapolis, Minn.

*Presbyterian Tribune*

70 Fifth Ave., New York City.

*Reconstructionist, The*

15 West 86th Street, New York City.

*Religion, A Digest*

2401 Military Road, Arlington, Va.

*Watchman-Examiner, The* (Baptist)

23 East 26th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

#### NATIONAL CHURCHES

AMERICAN BAPTIST HISTORICAL SOCIETY, Chester, Pa.  
 AMERICAN UNITARIAN ASSN., 25 Beacon St., Boston, Mass.  
 BOARD OF DIRECTION OF THE GENERAL SYNOD OF THE REFORMED CHURCH IN AMERICA, 156 Fifth Ave., New York City.  
 CHRISTIAN SCIENCE CHURCH READING ROOM, 537 Fifth Ave., New York City.  
 CONGREGATIONAL CHRISTIAN GENERAL COUNCIL, 287 Fourth Ave., New York City.  
 FREE CHURCH OF AMERICA, 25 Beacon St., Boston, Mass.  
 FREETHINKERS OF AMERICA, INC., 317 E. 34th St., New York City.  
 FRIENDS' GENERAL CONFERENCE OF THE RELIGIOUS SOCIETY OF FRIENDS, 1515 Cherry St., Philadelphia, Pa.  
 GENERAL CONFERENCE OF SEVENTH-DAY ADVENTISTS, 6840 Eastern Ave., N.W., Takoma Park, Washington, D. C.  
 GENERAL COUNCIL OF THE PRESBYTERIAN CHURCH IN THE U. S. A., 156 Fifth Ave., New York City.  
 NATIONAL LUTHERAN COUNCIL IN AMERICA, 39 E. 35th St., New York City.  
 NATIONAL SPIRITUALIST ASSN., 600 Penn. Ave., S.E., Washington, D. C.  
 NORTHERN BAPTIST CONVENTION, 152 Madison Ave., New York City.  
 SOCIETY FOR ETHICAL CULTURE OF NEW YORK, 2 W. 64th St., New York City.  
 THEOSOPHICAL SOCIETY IN AMERICA, Wheaton, Ill.  
 UNION OF AMERICAN HEBREW CONGREGATIONS, 34 W. 6th St., Cincinnati, Ohio.  
 UNION OF ORTHODOX JEWISH CONGREGATIONS OF AMERICA, 305 Broadway, New York City.  
 UNITED LUTHERAN CHURCH IN AMERICA, 39 E. 35th St., New York City.  
 UNITED SYNAGOGUE OF AMERICA,

Broadway and 122nd St., New York City.

UNIVERSALIST GENERAL CONVENTION, Inc., 16 Beacon St., Boston, Mass.  
 VEDANTA SOCIETY, 34 W. 71st St., New York City.  
 VOLUNTEERS OF AMERICA, 34 W. 28th St., New York City.

#### INTERNATIONAL ORGANIZATIONS

ASSOCIATION FOR THE PROMOTION OF CHRISTIAN UNITY, Mission Bldg., Indianapolis, Ind.  
 BAPTIST WORLD ALLIANCE, BATES College, Lewiston, Me.  
 CENTRAL BUREAU OF EVANGELICAL CHURCHES IN EUROPE, 297 Fourth Ave., New York City.  
 COMMITTEE ON FRIENDLY RELATIONS AMONG FOREIGN STUDENTS, 347 Madison Ave., New York City.  
 ECUMENICAL METHODIST CONFERENCE, 720 Omaha Bank Bldg., Omaha, Neb.  
 INTERNATIONAL ASSN. OF DAILY VACATION BIBLE SCHOOLS, 297 Fourth Ave., New York City.  
 INTERNATIONAL ASSOCIATION FOR THE PROMOTION OF LIBERAL CHRISTIANITY AND RELIGIOUS FREEDOM, 25 Beacon St., Boston, Mass.  
 INTERNATIONAL CONGREGATIONAL COUNCIL, 287 Fourth Ave., New York City.  
 INTERNATIONAL COUNCIL OF RELIGIOUS EDUCATION, 203 N. Wabash Ave., Chicago, Ill.  
 INTERNATIONAL SOCIETY OF CHRISTIAN ENDEAVOR, 41 Mt. Vernon St., Boston, Mass.  
 LUTHERAN WORLD CONVENTION, 39 E. 35th St., New York City.  
 NEAR EAST COLLEGE ASSOCIATION, Inc., 50 West 50th St., New York City.  
 RELIGIOUS EDUCATIONAL ASSOCIATION, 59 E. Van Buren St., Chicago, Ill.  
 UNIVERSAL CHRISTIAN COUNCIL ON

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

- LIFE AND WORK, 297 Fourth Ave., New York City.
- WESTERN SECTION OF ALLIANCE OF REFORMED CHURCHES THROUGHOUT THE WORLD HOLDING THE PRESBYTERIAN SYSTEM, 226 W. Mowry St., Chester, Pa.
- WORLD CONFERENCE FOR INTERNATIONAL PEACE THROUGH RELIGION, 70 Fifth Ave., New York City.
- WORLD STUDENT CHRISTIAN FEDERATION, 347 Madison Ave., New York City.
- WORLD'S SUNDAY SCHOOL ASSN., 156 Fifth Ave., New York City.
- CATHOLIC GUARDIAN SOCIETY, 485 Madison Ave., New York City.
- CATHOLIC PROTECTIVE SOCIETY, 477 Madison Ave., New York City.
- CHURCH LEAGUE FOR INDUSTRIAL DEMOCRACY, 135 Liberty St., New York City.
- COMMUNITY CHURCH WORKERS OF THE U. S. A., THE, 1302 Chicago Temple, 77 W. Washington St., Chicago, Ill.
- LORD'S DAY ALLIANCE OF THE U. S., 156 Fifth Ave., New York City.
- NATIONAL CONFERENCE OF CHRISTIANS AND JEWS, 381 Fourth Ave., New York City.

### INTERCHURCH ORGANIZATIONS

- AMERICAN BIBLE SOCIETY, Park Ave. and 57th St., New York City.
- AMERICAN SUNDAY SCHOOL UNION, 1816 Chestnut St., Philadelphia, Pa.
- AMERICAN TRACT SOCIETY, 21 W. 46th St., New York City.
- CHAPLAIN'S AID ASSN., 10 E. 52nd St., New York City.
- CHURCH PEACE UNION, 70 Fifth Ave., New York City.
- COMMUNITY CHURCH WORKERS OF U. S. A., 77 W. Washington St., Chicago, Ill.
- CONFERENCE OF THEOLOGICAL SEMINARIES AND COLLEGES IN THE U. S. A. AND CANADA, Gettysburg, Pa.
- EPWORTH LEAGUE OF THE METHODIST EPISCOPAL CHURCH, 740 Rush St., Chicago, Ill.
- FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA, 297 Fourth Ave., New York City.
- FELLOWSHIP OF CHRISTIAN CO-OPERATION, 2929 Broadway, New York City.
- FREE CHURCH OF AMERICA, 25 Beacon St., Boston, Mass.
- NATIONAL COUNCIL OF PROTESTANT EPISCOPAL CHURCHES, 281 Fourth Ave., New York City.
- NATIONAL RELIGION AND LABOR FOUNDATION, 304 Crown St., New Haven, Conn.
- SYNAGOGUE COUNCIL OF AMERICA, 1181 Broadway, New York City.
- WOMAN'S CHRISTIAN TEMPERANCE UNION, 1730 Chicago Ave., Evanston, Ill.
- WOMAN'S NATIONAL SABBATH ALLIANCE, 156 Fifth Ave., New York City.
- YOUNG MEN'S CHRISTIAN ASSN., 347 Madison Ave., New York City.
- YOUNG MEN'S HEBREW ASSN., 220 Fifth Ave., New York City.
- YOUNG WOMAN'S CHRISTIAN ASSN., 600 Lexington Ave., New York City.
- YOUNG WOMAN'S HEBREW ASSN., 220 Fifth Ave., New York City.

### RELIGIOUS PUBLICATIONS

- AMERICAN BAPTIST HISTORICAL SOCIETY, Upland Ave., Chester, Pa.
- AMERICAN BAPTIST PUBLICATION SOCIETY, 1701 Chestnut St., Philadelphia, Pa.
- AMERICAN BIBLE SOCIETY, Park Ave. & 57th St., New York City.
- AMERICAN TRACT SOCIETY, 21 W. 46th St., New York City.
- CHICAGO TRACT SOCIETY, 440 S. Dearborn St., Chicago, Ill.
- GIDEONS, 202 S. State St., Chicago, Ill.
- NATIONAL TESTAMENT AND TRACT LEAGUE, 200 Kellogg Bldg., Washington, D. C.
- POCKET TESTAMENT LEAGUE, THE, 156 Fifth Ave., New York City.
- RELIGIOUS EDUCATIONAL ASSN., 59 E. Van Buren St., Chicago, Ill.
- SOCIETY FOR THE PROPAGATION OF THE FAITH, 462 Madison Ave., New York City.
- FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA, 297 Fourth Ave., New York City.
- FELLOWSHIP OF CHRISTIAN CO-OPERATION, 2929 Broadway, New York City.
- FREE CHURCH OF AMERICA, 25 Beacon St., Boston, Mass.
- NATIONAL COUNCIL OF PROTESTANT EPISCOPAL CHURCHES, 281 Fourth Ave., New York City.
- NATIONAL RELIGION AND LABOR FOUNDATION, 304 Crown St., New Haven, Conn.
- SYNAGOGUE COUNCIL OF AMERICA, 1181 Broadway, New York City.

### AUXILIARY ORGANIZATIONS

- CATHOLIC CHURCH EXTENSION SOCIETY OF THE U. S. A., 306 N. Michigan Ave., Chicago.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### MISSIONARY

AGRICULTURAL MISSIONS INC., 156 Fifth Ave., New York City.  
 AMERICAN BOARD OF COMMISSIONERS FOR FOREIGN MISSIONS, 14 Beacon St., Boston, Mass.  
 AMERICAN McALL ASSN., 112 E. 16th St., Philadelphia, Pa.  
 AMERICAN MISSION TO LEPERS, INC., 156 Fifth Ave., New York City.  
 CHRISTIAN AND MISSIONARY ALLIANCE, 260 W. 44th St., New York City.  
 COMMITTEE OF REFERENCE AND COUNSEL, 156 Fifth Ave., New York City.  
 COUNCIL OF WOMEN FOR HOME MISSIONS, 297 Fourth Ave., New York City.  
 HOME MISSIONS COUNCIL OF NORTH

AMERICA, 297 Fourth Ave., New York City.  
 INTERNATIONAL MISSIONARY COUNCIL, 156 Fifth Ave., New York City.  
 MISSIONARY EDUCATION MOVEMENT OF THE UNITED STATES AND CANADA, 156 Fifth Ave., New York City.  
 NATIONAL COUNCIL OF JEWISH WOMEN, 1819 Broadway, New York City.  
 NEAR EAST RELIEF, 17 W. 46th St., New York City.  
 STUDENT VOLUNTEER MOVEMENT FOR FOREIGN MISSIONS, INC., 156 Fifth Ave., New York City.  
 WOMAN'S UNION MISSIONARY SOCIETY, 45 Astor Place, New York City.



# PART SIX

## SCIENCE—APPLICATION AND PRINCIPLES

### DIVISION XVIII

#### MATHEMATICS AND ASTRONOMY

#### MATHEMATICS

BY J. F. RITT\*

PROFESSOR, COLUMBIA UNIVERSITY

#### THEORY OF NUMBERS

One of the most striking papers of 1942 was possibly that of H. B. Mann in the *Annals of Mathematics* on the density of sums of sets of positive integers. Various writers had unsuccessfully sought to prove, previously, that the density of the sum of two sets of positive integers is either the sum of the densities of the two given sets, or else unity. Mann gives a complete proof of this result.

In analytic number theory there has been a lively interest in the properties of the expansion of the so-called modular invariant, which arises in the study of elliptic functions.

The study of algebraic functions and their relation to the theory of numbers has been prosecuted vigorously by Andre Weil.

The ordinary Euclidean algorithm which is used to find the highest common factor of two or more numbers has found, in the hands of J. B. Rosser, a remarkable extension to a similar algorithm for vectors, with many applications.

#### GROUPS

The analysis of finite groups has been considerably furthered by the

investigations of R. Brauer on the "modular" theory of such groups. It is shown, for example, that there is only one simple group of order 6048.

In group theory, O. Ore has made a penetrating investigation of the monomial groups which arise when a finite set of elements are permuted and multiplied by constants at the same time. G. Birkhoff has developed extensively the properties of groups whose elements can be ordered so as to form a lattice.

The close connection between the algebra of projective geometry and the algebra of a commutative group has been emphasized in R. Baer's demonstration that the two subjects can be treated as part of a common theory.

#### LOGIC

Rosser and Lyndon have shown that Quine's recent system of mathematical logic admits the famous Burali-Forti paradox which concerns the behavior of infinite ordinal numbers. The study of combinatory logic has been advanced so as to include a new and far-reaching consistency proof; this is an achievement of H. B. Curry. Rosenbloom has studied algebras associated with many valued logics.

\* The author is thankful, for valuable assistance, to Dr. J. J. de Cicco, Prof. Saunders Mac Lane, Prof. P. A. Smith, Prof. I. S. Sokolnikoff, and Prof. A. Wald.

## COMPLEX VARIABLE

In the *Transactions of the American Mathematical Society*, Polya has secured results of a final character in regard to the influence of the gaps, present among the exponents in a Taylor expansion, of the function which the series represents. One type of gap implies a natural boundary; a second type implies simple connectivity of the domain of existence. Polya shows that the theorems thus obtained can not be further refined.

In the same journal, Seidel and Walsh have introduced the notion of *radius of univalence* and have applied this notion in a study of the growth of a function and its derivatives as the variable approaches the circle of convergence. Szasz has investigated the largest circles within which the segments of a Taylor expansion remain less than a given number in modulus. Mandelbrojt and Ulrich have studied quasi-analytic functions.

In the *American Journal of Mathematics*, Louis Weisner has examined the zeros of a polynomial in which the coefficient of a given power of the variable is the product of the coefficients of the same power in two given polynomials.

In the same journal, Lipman Bers has extended to functions of two complex variables the famous theorem of Fatou on radial approach.

In the *Annals of Mathematics*, M. H. Heins has investigated the possibility of enlarging a Riemann Surface so as to obtain a new Riemann Surface.

## REAL VARIABLE

In the *Transactions of the American Mathematical Society*, G. Polya and N. Wiener have examined real-valued periodic functions defined for all real values of the variable and possessing derivatives of all orders. They derive a set of theorems which show that, when derivatives of high order of the function have few zeros, the function is of a simple character.

## DIFFERENTIAL EQUATIONS

In the *Annals of Mathematics*, Hermann Weyl has studied a non-

linear equation of the third order which occurs in the theory of viscous fluids. The equation is supplemented by three boundary conditions. For two special values of a parameter entering into the equation, a complete solution suitable for purposes of numerical calculation is found. The fixed point theorem of Birkhoff and Kellogg is applied for unspecialized values of the parameter.

In the *Duke Journal*, A. Erdelyi has treated linear equations of the second order with four regular singular points. His work yields, in certain cases, representations of the solutions of the equations by series of hypergeometric functions. In the same journal, boundary value problems for systems of differential equations are studied by H. E. Newell, Jr.

## MINIMAL SURFACES

In the *American Journal of Mathematics*, A. F. Lonseth has treated for hyperbolic space of three dimensions the problem of Plateau whose solution for Euclidean space was first given in the memorable researches of J. Douglas. In the same order of ideas, M. Shiffman has worked, in the *Annals of Mathematics*, with unstable minimal surfaces possessing several boundaries.

## CALCULUS OF VARIATIONS

E. J. McShane has dealt, in the *Transactions of the American Mathematical Society*, with sufficient conditions for strong proper relative minima.

## LINEAR OPERATORS

J. von Neumann, in a joint paper in the *Annals of Mathematics* with P. Halmos, has determined all possible mappings of measure spaces upon the unit interval. The theorems obtained are applied to the study of ergodic measure preserving transformations with a pure point spectrum.

Using contour integrals, E. R. Lorch, in the *Transactions of the American Mathematical Society*, has investigated the reducibility of bounded linear transformations.

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### ALGEBRAIC GEOMETRY

H. T. Muhly, in the *Annals of Mathematics*, has shown that a necessary and sufficient condition that an irreducible algebraic variety be normal in the arithmetic sense is that the system cut out on the variety by any hypersurface be complete.

Zariski, in the *Bulletin of the American Mathematical Society*, has developed the geometry of the group of birational transformations and has studied the behavior of normal varieties under such transformations.

### CLASSICAL DIFFERENTIAL GEOMETRY

MacQueen, in the *Bulletin of the American Mathematical Society*, has developed the theory of osculating quadrics of ruled surfaces in reciprocal rectilinear congruences. P. O. Bell, in the *American Journal of Mathematics*, has studied the properties of the quadrics which are determined at a point of a surface by an asymptotic curve and a one-parameter family of curves.

### RIEMANNIAN GEOMETRY

A. Fialkow, in the *Transactions of the American Mathematical Society*, has developed the conformal riemannian geometry of curves. He has found the conformal Serret-Frenet equations and the conformal curvatures of a curve. This gives rise to a theory quite analogous to the metric theory.

By use of tensor analysis, Sprague has obtained the analytic conditions that a given conjugate net be an R net.

Coburn has developed the conformal geometry of unitary spaces. He has shown that two unitary spaces, both without torsion, can not be conformal. He also has obtained the condition that two unitary spaces with symmetric connections have corresponding geodesics.

### GEOMETRIC INVARIANTS

Kasner and de Cicco, in the *Transactions of the American Mathematical Society*, have initiated the

study of the invariant theory, in the geometry based on the infinite group of arbitrary regular point transformations, of the most general irregular analytic arc. A complete classification according to the form of the differential invariants of lowest order shows that there are 13 distinct and mutually exclusive types of analytic arcs, one regular and 12 irregular.

### TOPOLOGY

Mathematicians have long realized that, from an abstract point of view, the three-dimensional space in which we live is but one space in an endless variety of spaces. It is perfectly natural, for example, to regard sets of  $n$  numbers as points in an  $n$ -dimensional space and infinite sequences of numbers as points in an infinite-dimensional space, in analogy to the reference of ordinary space to a threefold coordinate system.

Suppose that a given space  $S$  is transformed into a space  $R$  by a transformation  $T$ . If the correspondence between  $R$  and  $S$  defined by  $T$  is one-to-one, and if  $T$  is continuous,—that is, if points which are near each other in  $R$  correspond under  $T$  to points which are near each other in  $S$  and conversely, then  $T$  is called a homeomorphism and  $S$ ,  $R$  are said to be homeomorphic to each other. A geometric property of  $S$  which is invariant when  $S$  is transformed homeomorphically is called a topological property of  $S$ . Topological properties may be regarded as among the most primitive geometric properties since they depend only on the concept of continuity and not on the concept of measure or distance. The dimensionality of a space  $S$  is an example of a topological property of  $S$ . The surface of a sphere (regarded as a two-dimensional space) has topological properties quite different from those of the surface of a life preserver but is identical topologically with the surface of a pyramid or cube.

One can distinguish roughly between two more or less overlapping approaches to topological problems, the point-set theoretical and the alge-

braic. In the first, the basic relation by means of which topological properties are defined and studied is the inclusion relation: "the set of points A is contained in the set of points B." In the second, the basic tool is the net of complexes, an infinite system of schemata forming a sort of skeleton for a given space and acting as a field for algebraic operations. Modern developments in these schools of topology—many of them due to American mathematicians—are ably set forth in two recent books: *Analytic Topology* by G. T. Whyburn and *Algebraic Topology* by S. Lefschetz. The appearance of these books may be regarded as a major event of the year in the field of topology.

Important topological questions arise in connection with continuous transformations of a space  $S$  into itself, as for example a rotation of ordinary space about an axis. One may ask, does every transformation of  $S$  into itself, satisfying specified topological conditions, necessarily leave fixed at least one point? This question has been treated in both of the books mentioned above. In particular, Lefschetz's book contains a new, improved derivation of the author's well-known formula for the minimum number of fixed points under most general conditions.

Topological theorems which assert that fixed points exist have important applications in analysis and dynamics. H. Weyl has recently used a special theorem of this sort, first established by G. D. Birkhoff and O. D. Kellogg, in connection with an important problem concerning the motion of fluids. The space under transformation in this application is infinite-dimensional.

Closely related to the problem of fixed points is the problem of continuous vector distributions. One asks, when is it possible to place a non-zero vector at each point of a given space in such a way that the direction of the vector at any given point differs but slightly from the direction at nearby points? It is well-known for example that the surface

of a sphere does not admit such a vector distribution but that its three-dimensional analogue—the hypersphere—does. N. Steenrod has recently considered similar questions in connection with distributions of tensors (a tensor amounts roughly to a finite set of vectors). These problems in turn may be regarded as special problems in the theory of fibre-bundles developed by Steenrod, W. Hurewicz, and especially H. Whitney. A number of results in this direction, announced by Whitney during the year, await publication.

## TENDENCIES IN APPLIED MATHEMATICS

There has been an upsurge of interest in applied mathematics, as is evidenced by the establishment of centers of graduate instruction in applied mathematics and mechanics at Brown University, New York University, and Massachusetts Institute of Technology. Undoubtedly the amount of significant research in progress during the past year was greater than in any previous year in the history of American mathematics. An ever increasing number of mathematicians and theoretical physicists are being drawn into war work, but their connection with governmental organizations makes it inadvisable to publish their findings at this time. The scientific publications are operating self-imposed censorship, and since a considerable portion of research bears on the war effort and is of confidential character, the volume of publication is markedly decreased.

It can be said generally that the work in Aerodynamics and in the Theory of Elasticity is characterized by a wider use of function-theoretic methods. Trends in this direction can be discerned from a list of references contained in an address by I. S. Sokolnikoff published in the *Bulletin of the American Mathematical Society*.

## MECHANICS OF CONTINUOUS MEDIA

Considerable interest is displayed in problems concerned with stability



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of structures and in the theory of shells. A notable paper on the latter subject was written by J. L. Synge and W. Z. Chien (von Karman Anniversary Volume) who gave a rigorous formulation of the theory of shells. In a series of papers written by Hsue-Shen Tsien in collaboration with Th. v. Karman and L. G. Dunn, in the *Journal of Aeronautical Sciences*, the effect of curvature of a structure on its buckling characteristics is investigated. The related work on buckling of the circular plate beyond the critical thrust by K. O. Friedrichs and J. J. Stoker in the *Journal of Applied Mechanics* also deserves mention.

### ELECTROMAGNETIC WAVES

Despite numerous attempts, extending over a period of some 40 years, to develop a satisfactory theory of wave propagation in antennas, no such theory was developed until 1941. In a paper on Theory of Antennas of Arbitrary Size and Shape in *The Proceedings of the Institute of Radio Engineers*, S. A. Schelkunoff developed a theory for antennas whose transverse dimensions are small compared with the longitudinal. The theory is quantitatively adequate and presents a simple picture of the radiation phenomena.

### STATISTICS

The work to which reference is made in this section is presented chiefly in the *Annals of Mathematical Statistics*.

The serial correlation coefficient is used for testing the independence of a finite number of observations against the alternatives of the existence of a trend or some cyclical component. Neumann, Anderson, and Koopmans have made contributions to the solution of the problem of obtaining the distribution of the serial correlation under the assumption that the observations are normally and independently distributed with a common mean and variance. Neumann considers the ratio of the mean square successive difference to the

variance which is essentially the same as the serial correlation for lag 1. His exhaustive discussion brings out several essential properties of the above statistic and provides a basis for effective computational methods. Furthermore, Neumann gives a general discussion of the distribution of values of quadratic and of Hermitian forms. Anderson derived the exact and large sample distributions for the serial correlation for lag 1 and gives a table of the exact significance points. He also shows that the distribution of the serial correlation for lag  $L$  is the same as for lag 1 if the integers  $L$  and  $N$  are prime to each other where  $N$  denotes the number of observations. Koopmans discussed the distribution of the values of a quadratic form on the unit sphere and derived an approximation formula for this distribution by replacing the finite number of characteristic values of the quadratic form by a continuous variable.

Wald introduced the notions of asymptotically most powerful tests and asymptotically shortest confidence intervals. It is shown that under certain restrictions the tests based on the maximum likelihood statistic and some other statistics are asymptotically most powerful. Confidence intervals are derived which are asymptotically shortest. Wald's results provide a new foundation of the method of maximum likelihood in the light of the Neyman-Pearson theory. A summary of these and some previous results is given in the last two chapters of the publication *On the Principles of Statistical Inference*, Notre Dame Mathematical Lectures No. 1, 1942.

Roy derived the joint distribution of the roots of certain determinantal equations. Roy's results are extensions of some previous results by R. A. Fisher and P. L. Hsu. The joint distributions obtained by Roy have important applications in multivariate statistical theory.

Wolfowitz extended the likelihood ratio criterion to tests of hypotheses where the form of the distribution

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function is unknown. This is done by regarding as the elements of the sample space not the observations themselves but their order relations. Application of this and similar tests is facilitated by several theorems on runs.

Mann and Wald formulated principles for the choice of the number of class intervals in the application of the chi square test and determined the number and lengths of the class intervals according to these principles.

## ASTRONOMY

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### MEETINGS

Section D (Astronomy) of the American Association for the Advancement of Science met with the Association at Dallas, Tex. in December 1941. The summer meeting scheduled in June at Ann Arbor, Mich. was canceled. The American Astronomical Society met at Cleveland, O. in December 1941, and at New Haven, Conn. in June 1942. A feature of the Dallas and Cleveland meetings was the presence of officers of the Army Air Corps, who requested the cooperation of American astronomers in the training of navigators for the Air Services. At the New Haven meeting, a symposium on the teaching of sea and air navigation stimulated widespread discussion. The Astronomical Society of the Pacific did not hold its usual summer meeting for the presentation of papers.

### NEW OBSERVATORIES

The new National Astrophysical Observatory of Mexico, at Tonantzintla, was dedicated with impressive ceremonies on Feb. 17, 1942. A large group of astronomers, geologists, and physicists from the United States and Canada attended the dedication and took part in an Inter-American Scientific Conference which followed. The observatory is situated about 80 miles east of Mexico City, at an altitude of 7,000 feet. Its principal instrument is a 27-inch Schmidt camera, the optical parts by the Perkin-Elmer Corporation, the mounting constructed in the shop of Harvard Col-

lege Observatory. The director is Dr. Luis Enrique Erro, and study of the structure of the Milky Way, by star-counts and magnitude and spectrum surveys, will form a large part of the program of research, extending to the southern sky the investigations which have been so vigorously pursued at Harvard by Bok and his collaborators.

The Argentine National Observatory at Cordoba, founded 71 years ago by Benjamin Gould and distinguished for its astrometric work, dedicated a new station for astrophysical research on July 4 and 5. The station is at Bosque Alegre, 30 miles southwest of the main observatory, at an altitude of 4,000 feet. It houses a 60-inch reflector, the parabolic mirror by Fecker, the mounting by Warner and Swasey, the smaller mirrors and the spectrographs built by the Cordoba Observatory. Director Enrique Gaviola has inaugurated a program of spectroscopic research.

Work upon the nearly completed Palomar Observatory and upon its 200-inch mirror, which had reached the polishing stage, has been suspended until the end of the war.

### THE SUN

Sun-spot activity in 1942 was somewhat less than in 1941, but it was expected to decline further until minimum is reached about 1944.

The three solar eclipses of 1942 were all partial and accordingly not favorable for study of the solar envelopes, but results of spectroscopic observations of the chromosphere, made in South Africa at the total

eclipse of Oct. 1, 1940, were reported by Redman. In the spectrum of the chromosphere about 4,000 lines were measured and 3,000 identified. Twenty-five elements and two compounds (CH and CN) appeared, the lines of eight rare earths being strikingly conspicuous. No systematic shift of emission relative to absorption lines was detected, contrary to observations of Menzel and Thackeray on earlier eclipse spectra. Study of the profiles of the lines led Redman to estimate the kinetic temperature of the chromosphere as 30,000° absolute, an extraordinarily high value.

William Petrie and Menzel have measured 16 known and 12 new spectrum lines of the corona, on spectrograms taken in Siberia at the total eclipse of June 19, 1936. Ten more apparent new lines may be real, but there is some reason to believe them spurious.

Observations of the total light of the corona, at the total eclipse of Sept. 21, 1941, observed at Lintao in Free China, have been reported by Chang and Li. The light was two-fifths of that of the next full moon. The instrument used was a Weston exposure meter, "the only apparatus we could get hold of during the war."

The abundance of iron in the solar atmosphere has been calculated by R. B. King, using Allen's measures of equivalent widths of the Fraunhofer lines, made at Canberra, Australia, and by Roach and Phillips, using Phillips's similar measures made at Mount Wilson. Both calculations agree that the number neutral atoms of iron above a square centimeter of the photosphere is between four and five million million.

The Smithsonian Astrophysical Observatory has published Volume VI of its *Annals*, setting forth in detail the observations of the solar constant made at the Observatory's three stations, in California, Chile, and Egypt, from 1920 to 1933. The observations before 1930 have been published, but are re-reduced in this volume, to correct some systematic errors. The

reduced solar-constant values are analyzed for periodic variation, and 14 periods, from 273 months to 8½ months, are found. There is also evidence for a 27-day period (that of the solar rotation) but none for a correlation of total solar radiation with the single sun-spot cycle (273 months or 22¾ years is the double sun-spot cycle). Perhaps the most striking feature of this great assembly of remarkably precise data is the constancy of solar radiation—from 1924 to 1939 the total range was one per cent. Just at the beginning of this series, in 1922, a sudden drop of two per cent, persisting for three years, is conspicuous.

### COMETS

Seven comets were observed in 1942. Four of these were returns of known periodic comets: Schwassmann-Wachmann I (1925 II), Gregg-Skjellerup (1902 II), Forbes II (1929 II), and Wolf I (1884 III). Whipple at Harvard discovered two comets, the first of which almost reached naked-eye visibility in March. Miss Oterma at Tartu, Estonia, in addition to picking up Schwassmann-Wachmann's comet in February, discovered a comet in November; similarity of orbital elements suggests that this is a return of Stephan (1867 I). A "rapidly moving object" was photographed five times from March 12 to 22 at Tartu, the Lowell Observatory, and Harvard. The observations, though rather discordant, indicated a minimum distance from the earth of about 1,250,000 miles, and the photographic images, though blurred by the rapid motion, suggested that the object was itself somewhat diffuse.

The recent rapid progress in elucidation of the complex band-spectra of the comets continued in 1942 with the identification by Herzberg of the "4050-group" of bands as due to the CH<sub>2</sub> molecule, bringing the number of molecules detected in comets up to nine, all combinations of the four elements hydrogen, nitrogen, oxygen, and carbon. Not only did Herzberg present cogent theoretical reasons for

the CH<sub>2</sub> identification, at the Chicago Conference on Spectroscopy in June, but he has since matched the 4050-group in the laboratory, under conditions which make practically certain that the band is due to a polyatomic CH molecule, CH<sub>2</sub> being the most probable.

Bobrovnikoff has published a very comprehensive systematic discussion of the brightness of comets, which has been in progress for many years. More than 4,400 observations of 45 comets, made with the naked eye and all sorts of telescopes, by a great number of observers, were reduced to a consistent photometric system, so that the corrected normals (averaging 6.6 observations) showed an internal probable error of only 0.09 of a magnitude. With this material, the relations between the apparent brightness of a comet and its distance from the earth, distance from the sun, phase-angle, and time with respect to perihelion were investigated. The brightness of the average comet was found to vary inversely with the square of its distance from the earth, and with a power of its distance from the sun a little higher than the cube, physically very reasonable results, but no systematic phase-effect was found, nor did observations before and after perihelion differ systematically in the average, though some individual comets were brighter after perihelion, and some fainter. Periodic intrinsic variations occurred in the light of more than half of the comets, but there was no evidence for a secular diminution in light, such as might be due to a comet's disintegration.

## STARS: HIGH DISPERSION SPECTRA

Measures of the profiles of the spectral lines of Sirius (from Mount Wilson and Lick) and Gamma Geminorum (from McDonald) have been used by Aller to obtain curves of growth for the multiplets observed in these stars, and to determine excitation and ionization temperatures for their reversing layers. The former temperature is 6000°, the latter

8700°. The broadening of the hydrogen lines gives an electron pressure about one-sixth of that predicted by theory. If iron is half ionized in the sun, the amount of metallic vapor above the solar photosphere is about one-twentieth of that above the photosphere of Sirius (in agreement with earlier estimates). Hydrogen is about 1,000 times as abundant, by weight, as iron.

Greenstein has made a detailed study of high-dispersion spectra of Canopus, measuring and identifying nearly 1,000 lines, among which ionized metals and neutral iron predominate. The strength of the hydrogen lines is remarkable for an FO-star of absolute magnitude -3.5. An excitation temperature of about 5000° is adopted, and an ionization temperature of 7300° is found.

Roach has measured and identified 660 lines in the violet end of the spectrum of Gamma Cygni. Lines of the rare earths are remarkably strong.

## SPECTROPHOTOMETRY OF STARS AND GALAXIES

A report on the spectrophotometric program carried on from 1937 to 1940 by Hall at the Sproul and Amherst observatories was issued in 1941 and 1942. The light of 67 bright stars was measured photo-electrically in ten or more spectral regions from 4,500 to (in some cases) 10,000Å. Photometric relative gradients for the stars of earlier types were determined and compared with the Greenwich and Göttingen gradients. The individual measures conformed reasonably well to the theoretical linear relation of the gradient except in the infra-red, where deviations appeared in the same sense as the "Balmer discontinuities" of Barbier and Chalonge, in the ultra-violet. The infra-red discontinuity thus indicated is much smaller than the Balmer, but correlated with it, and may reasonably be ascribed to the influence of the Paschen series of hydrogen, previously noted qualitatively by P. W. Merrill and O. C. Wilson. Measures of the binary Epsilon Aurigae showed a similar deviation, which is ascribed mainly to



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the effect of the light of the infra-red companion.

Whitford and Stebbins have made photoelectric measures of giant and dwarf stars, and extra-galactic nebulae, in six spectral regions from 3,500 to 10,000 Å. Main-sequence stars gave linear gradients, and the later giants and dwarfs could be clearly distinguished by color. The comparison of nine exterior galaxies with stars of corresponding visual color temperatures indicated that the galaxies were relatively brighter in both the ultra-violet and the infra-red, as they should be if they are aggregations of stars of widely different spectral types. This color distribution, combined with the effect of "red-shift," should systematically affect the counts of distant galaxies, but as the two excesses would alter the true numbers in opposite directions, the sense of the necessary correction is doubtful.

### BINARY STARS

The discovery that the binary 61 Cygni has an invisible third component of planetary mass was one of the astronomical events of 1942. All that has actually been observed is a minute periodic variation of the relative position of the wide pair, the period being 4.9 years (the wide pair has a period of some 700 years). Many invisible companions have been discovered in this way, by the gravitational disturbance they produce; what makes this particular discovery noteworthy is the extraordinary smallness of the disturbance, detectable only by the refined photographic method which Strand used, and indicating a probable mass for the invisible companion about one-sixtieth of the sun's mass or 16 times that of Jupiter. Such a mass is only a tenth of that of a very small star. If this body may be called a planet, it is the first ever discovered outside our solar system. Considering that only in a very few near binary systems with nearly equal components could such bodies produce an observable influence, the fact of the discovery of this one suggests that such bodies may in reality be common and

not rare, as has been the implication of recent cosmogonic speculation.

The appearance of bright lines in a spectrum of the eclipsing binary RW Tauri, photographed at primary minimum by Wyse in 1933, provided a puzzle in the interpretation of this otherwise normally-appearing system, which recent work by Joy has just cleared up. This stellar pair consists of a bright B-type star and a much fainter but somewhat larger K-type star, a rather common sort of combination, among eclipsing stars. Just as primary minimum comes to totality, bright lines of hydrogen appear, widely displaced to the red; these disappear near mid-totality, and are then replaced until the end of totality by similar lines displaced to the violet. The effect is a kind of "super-flash-spectrum," and might be reasonably explained by a hydrogen atmosphere around the B-star, but for the sharpness and displacement of the lines. These features can be accounted for by supposing that the hydrogen does not occur all around the star, but in a ring near the plane of the other star's orbit, and that the ring rotates rapidly (at about 350 kilometers per second) about the B-star in the direction in which the two stars revolve. The rapid rotation is not shared by the B-star itself, for its absorption lines are not noticeably broadened. The existence of such Saturn-like rings about the components of some binaries has been suggested by Kuiper under certain special conditions, but what we know about RW Tauri does not indicate that these conditions are here fulfilled.

Kopal has published a very extensive discussion of the theoretical light-curves of very close eclipsing pairs, following in general the lines of Take-da's theory. Tables for the calculation of actual light-curves are projected, but not yet completed. Kopal has also published a careful study of the system of Algol, applying his methods to the photoelectric light-curves of Stebbins and Smart, and obtaining elements of the system and probable dimensions, luminosities, and

masses for the two close components (a B8 main-sequence star and a spectroscopically unobservable faint yellow subgiant), and for the third body (a star comparable in mass and brightness to the sun).

## STARS WITH EXTENDED ENVELOPES

Swings and Struve have continued their investigations of these remarkable objects, notable for the complexity of their spectra and the diversity of atmospheric behaviors which these spectra reveal. They have published further observations of typical stars—AX Persei, Z Andromedae, AG Pegasi, R Aquarii, RW Hydrae, and others—and have discussed the mechanisms by which the envelopes are excited to radiation. They conclude that a great many of the peculiar selective effects observed, where certain lines of a given element are abnormally conspicuous relative to others of the same element, may be explained by the mechanism of fluorescence in the envelope, operating under the rather special conditions of distribution of the exciting radiation from the photosphere, and greatly predominating over the recombination mechanism of Bowen.

Hynek and Struve have studied Zeta Tauri, which seems to be a spectroscopic binary with an envelope around the primary star. The second star is inferred only from the apparent orbital motion of the other, which also rotates very rapidly. The rotating envelope is thought to be unstable on the side toward the secondary, and to be ejected in an irregular stream which eventually falls back into the primary.

## NOVAE

Two galactic novae appeared in 1942, the second being the brightest in 25 years. Nova Cygni 1942, the first one, was discovered by Zwicky on a spectrum plate taken on Mount Palomar Sept. 2, and afterward found on Harvard plates back to June 8. On that date its magnitude was 9.3; it rose to 7.9 on June 20, and fluctuated between that brightness and

magnitude 10.1 for three weeks, and between 8.8 and 10.8 for another six weeks, after which it dropped rapidly to magnitude 15 by early October. This behavior recalls that of Nova Herculis 1934, which rose again after a similar drop, but up to this writing Nova Cygni has not done so. The second one, Nova Puppis 1942, was independently discovered by many amateur and professional observers, the first apparently being Dawson of Cordoba, Argentina, on the night of Nov. 8-9. It was then between second and first magnitude, and came close to zero magnitude on Nov. 12, after which it decreased rapidly, passing below naked-eye visibility about Dec. 1. The spectrum of Nova Cygni, because of its faintness, could only be photographed effectively by the largest instruments, but Nova Puppis, though far south for northern observatories, has provided a great deal of material for detailed spectroscopic study. The first descriptions of both spectra mention the features usually shown by early-stage novae—diffuse emission lines of hydrogen, oxygen, and ionized metals, with complex absorption components at their violet edges, indicating the ejection of material at various velocities up to 1,460 kilometers per second for Nova Cygni and 1,100 for Nova Puppis.

The most interesting investigations into the nature of a nova, published in 1942, are concerned with neither of these stars, but with Nova Tauri 1054, a phenomenon whose occurrence is known to us only by references in Chinese and Japanese chronicles. This star appeared in the region where we now see the "Crab Nebula." In 1921 Lampland noted that this nebula is visibly expanding, and Lundmark called attention to the possibility that the nova observed by the Chinese might have been the parent of the nebula. Recent investigations of the Oriental records by Duyvendak of Leiden, calculations by Mayall of Lick and Oort of Leiden, and a discussion of the observed data by Baade and Minkowski of Mount Wilson make this possibility a strong

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probability. The "guest-star" of 1054, visible for two years and outshining Venus at its maximum, was pretty certainly a super-nova of Type I, a cataclysm which released an outburst of light 300,000,000 times that of our sun, and expelled a cloud of glowing gas into space all round it with a velocity above 1,000 kilometers per second. This gas-cloud is the nebula, now (as we see it) six light-years in diameter. The kernel of the star that exploded is tentatively identified by Minkowski with a sixteenth-magnitude star in the nebula, and he gives reasons for supposing that it may be a very small, very hot star in the "degenerate" state, and that its outburst was due to its collapse into this state, a collapse which Chandrasekhar has suggested as the cause of a super-nova of this type.

It may be recalled that in 1941 Baade detected a small faint fan-shaped nebula near the position of Kepler's nova of 1604, and noted that the tremendous range in brightness of this star (20 magnitudes) indicates that it may also have been a super-nova.

Nova Cygni, Nova Puppis, and Nova Herculis, stars giving out at maximum only ten to a hundred thousand times as much light as the sun, are superficial outbursts compared to the convulsion of a super-nova, but every evidence indicates that they also blow off shells of gas at high speed, and the shell around Nova Herculis has now become observable. Baade has photographed it with the 100-inch telescope at Mount Wilson as an elliptical ring. The major axis of the ellipse is in line with the two components into which Nova Herculis seemed to split after the outburst; apparently the components were the brightest portions of the ring. A remarkable localization of glowing nitrogen on the axes of the ellipse, while oxygen spreads over it uniformly, is noted.

### NEBULAE

The last published work of the brilliant young astrophysicist, Arthur B. Wyse of Lick Observatory, appeared

a few days before his death on June 9, 1942 in the service of his country. It was a study of the spectra of ten gaseous nebulae—nine planetary nebulae and the diffuse Orion nebula—following a line of investigation started by Bowen and Wyse in 1938. Great pains were taken that the observations might reach the faintest lines detectable with the equipment, and some 270 of these are listed as undoubtedly present. Sixty per cent of these are identified, contributing more than 95 per cent of the nebular radiation. Sixteen elements are represented, two doubtfully, including several metals and fluorine and chlorine. The latter have not yet been found in stars (except for fluorine compounds in the sun), but the spectroscopic structure of these elements is such that the lines they would show in the immensely rarefied nebular cloud, illuminated by the ultra-violet light of the central star, are quite different and far more conspicuous than those they would give out in a stellar atmosphere. On the whole, the composition of the nebula seems to be very close to that of a star.

### DYNAMICAL STUDIES

An important general treatise on the principles of stellar dynamics has come from the pen of Chandrasekhar. It is in large part a very general mathematical treatment of the gravitational interaction of an assembly of point masses, with an extensive consideration of the "time of relaxation" in systems of various characters. The dynamics of spiral structures and of star clusters are given a more particular consideration. The treatment is distinguished by the rigor and unity characteristic of Chandrasekhar's work.

A discussion of the space motions and absolute magnitudes of the long-period variables, based on the Mount Wilson radial velocity observations on these stars, has been published by R. E. Wilson and P. W. Merrill. The mean absolute magnitude for 173 stars is found to be  $-1.0$ ; the mean space velocity is 74 kilometers per

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second, a very high value for giant stars. The apices of motion lie predominantly in that half of the sky opposite to the apex of the solar motion and the direction of the galactic rotation. The greatest velocity dispersion is along a line nearly radial to the galaxy.

Spitzer has continued his investigations on the dynamics of interstellar matter with a discussion of the large-scale behavior of such matter in a galaxy. He finds that the random velocities of interstellar particles, unlike those of stars, must be low, and

that the interstellar matter, if present in quantities comparable to the stellar matter, must be very highly concentrated in the galactic plane of a rotating galaxy; in a spherical galaxy no such quantity is possible. The general illumination of spherical and elliptical galaxies can not come from such matter, but must be direct starlight. It is quite possible that a large part of the mass of a rotating system may consist of a thin sheet of dark interstellar matter far denser than the matter producing galactic interstellar spectral lines.

## PERIODICAL PUBLICATIONS

*American Journal of Mathematics*  
Johns Hopkins Press, Baltimore, Md.

*American Mathematical Monthly*  
33 Peters Hall, Oberlin, Ohio.

*Annals of Mathematics*  
Princeton University Press, Princeton, N. J.

*Astronomical Journal*  
Yale University Observatory, New Haven, Conn.

*Astrophysical Journal*  
5750 Ellis Ave., Chicago

*Bulletin of the American Mathematical Society*  
531 West 116th Street, New York City.

*Duke Mathematical Journal*  
Duke University Press, Durham, N. C.

*Journal of Mathematics and Physics*  
Massachusetts Institute of Technology, Cambridge, Mass.

*Popular Astronomy*  
Carleton College, Northfield, Minn.

*Publications of the Astronomical Society of the Pacific*  
Merchants' Exchange Building, San Francisco, Calif.

*School Science and Mathematics*  
450 Ahnaip Street, Menasha, Wis.

*Transactions of the American Mathematical Society*  
531 West 116th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASTRONOMICAL SOCIETY,  
Dearborn Observatory, Evanston, Ill.

AMERICAN MATHEMATICAL SOCIETY,  
531 W. 116th St., New York City.

MATHEMATICAL ASSN. OF AMERICA, 97  
Elm St., Oberlin, Ohio.

NATIONAL ACADEMY OF SCIENCES,  
2101 Constitution Ave., Washington, D. C.

SCIENCE SERVICE, 2101 Constitution  
Ave., N.W., Washington, D. C.



# DIVISION XIX

## ENGINEERING AND CONSTRUCTION

### STRUCTURAL ENGINEERING

By J. J. DOLAND

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#### EFFECT OF WAR

**General.**—As a result of the war, much of the civilian construction has been stopped or greatly curtailed; consequently, the major part of the 1942 construction was for war production and the military forces. Many of the most important and unusual structures are of such nature that the information concerning them is confidential and not available for publication.

The shortage of steel for structural purposes has resulted in a larger percentage of structures being built of reinforced concrete, timber and, wherever possible, unreinforced concrete.

Considerable steel has been saved by the use of welded, rigid-frame construction and the substitution of wood purlins for the usual steel purlins. Where one-story factories and plant additions must be built with steel frames, the normal steel requirements amount to approximately 8.4 lbs. per sq. ft. of building area, but the use of wood purlins can decrease this to about 6 lbs., and the use of welded, rigid-frame construction can reduce it further to about 5 lbs.

In some cases for large factory buildings, the use of concrete frames and thin-slab multiple-arch concrete roofs to replace structural steel has reduced the required amount of steel

from 12.7 lbs. per sq. ft. of floor area to 2.7 lbs.

**Construction Trends.**—Engineering construction in 1942 cost \$9,300,000,000, exceeding the previous record established in 1941 by 57 per cent. Of this total, over 88 per cent was for Federal construction, 6.1 per cent for private construction, and 5.5 per cent for state and municipal work. Almost 67 per cent of this record amount was spent for buildings, private buildings accounting for 5.4 per cent and buildings directly related to the war program accounting for 61.3 per cent.

Highway construction, saddled with restrictions throughout 1942, amassed a total of \$530,504,000, a figure 11 per cent below the 1941 amount. Confronted with material shortages, bridge construction dropped to a new low of \$50,158,000 for the year or 56 per cent under the previous year. In 1941, the structural steel fabricating industry shipped over 2,700,000 tons of fabricated steel, but the estimate for 1942 was about 1,250,000 tons.

**Specifications.**—Specifications applying to emergency structures have been issued for the purpose of conserving steel during the present war emergency. The War Production Board's "National Emergency Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings," dated Sept. 10, 1942, in-

creases the basic unit stress in tension and flexural members and requires that buildings be designed to secure the greatest savings of steel practical through continuity in design and welded fabrication.

The "National Emergency Specifications for the Design of Reinforced Concrete Buildings" by the War Production Board, for contracts placed after Dec. 4, 1942, increases the unit stress for steel reinforcing bars and raises the allowable tension in unreinforced concrete to increase the practicability of using structures with no reinforcement.

The Committee on Iron and Steel Structures of the American Railway Engineering Association adopted on Sept. 15, 1942 "Emergency Provisions" which are to be used for structures that are to remain in service for the period of the war emergency only. The basic unit stress therein is increased for the purpose of conserving steel.

## DAMS

**General.**—The U. S. Bureau of Reclamation, U. S. Army Corps of Engineers, and Tennessee Valley Authority were all actively engaged in dam construction in 1942.

The Corps of Engineers was primarily interested in flood control structures, but the Bureau of Reclamation and Tennessee Valley Authority were mainly interested in the production of power. The rapidly expanding war industries require more power than the many dams which are already constructed can produce; consequently, more dams are being rushed to completion and additional generating units are being installed in existing dams.

**Boise Project, Idaho.**—The Bureau of Reclamation continued work on several principal projects. Construction of Anderson Ranch Dam in Idaho continued during 1942. The river was routed through the diversion tunnel on May 18, 1942. Excavation for the cut-off trench below river level was completed in September 1942. The lowest point of excavation at elevation 3,754 fixes the

maximum height of the dam at 451 feet. The cut-off trench, involving 546,000 cu. yds., was about 50 per cent backfilled when freezing weather stopped embankment operations for the season. Construction during 1943 will depend upon future action of the War Production Board.

**Boulder Canyon Project, Arizona-California-Nevada.**—Work on this project during 1942 consisted primarily of the installation of three additional 82,500-kilowatt generating units in the Boulder Dam Powerhouse. One of these units, A-2, was placed in operation in July 1942, and another unit, A-5, is scheduled for completion early in January 1943. The third new unit, N-7, is scheduled for completion in May 1944. A power line supplying a magnesium plant located a short distance from Boulder Dam was completed and placed in service.

**Central Valley Project, California.**—On the Kennett Division, construction of the Shasta Dam and Power Plant was continued and was approximately 70 per cent complete at the end of the year. It is planned that two of the 75,000-kilowatt generating units will be placed in operation early in 1944. Relocation of the Southern Pacific Railroad and construction of the Pit River Bridge was completed. Railroad traffic was routed over the bridge on March 19, 1942, although the highway deck and the painting was not completed until July 1942. Records show that the safety net placed under the superstructure during construction saved five lives. Clearing of the Shasta Reservoir area was continued during the year. Construction of the works for migratory fish control was continued. The first stage construction of Keswick Dam was completed and the second stage construction continued until December 1942, at which time the work, exclusive of facilities to protect the fish industry and work for the purposes of public health and safety, was stopped by order of the War Production Board.

On the Friant Division, Friant Dam was completed in November

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1942 with the exception of the river outlet valves, canal outlets, and spillway drum gates, the installation of which has been postponed. Concrete placement in the dam was completed in June 1942. The partially completed dam will be effective in the control of floods on the San Joaquin River. Construction work on the canals has been suspended because of lack of materials.

**Colorado-Big Thompson Project, Colorado.**—Construction of the earth and rock fill embankment at Green Mountain Dam was virtually completed at the end of 1942. The Spillway structure was completed except for installing control gates and hoisting mechanisms. Storage in the reservoir was commenced during November 1942 when the pen-stock tunnel was closed at the inlet to permit installation of the pen-stock pipe and emergency gates. Main installation work on two 10,800-kilowatt generators was completed and first power is scheduled to be produced in April 1943. Excavation of the Alva B. Adams Tunnel (formerly known as the Continental Divide Tunnel) had been advanced 6.58 miles from the East portal and 3.93 miles from the West portal by the end of 1942. This leaves 2.60 miles of the 13.1-mile tunnel to be excavated. Construction work on the tunnel was stopped at the close of the year by order of the War Production Board. Construction of the diversion and outlet tunnel at Granby Dam, principal storage structure on the project, was completed in 1942. Work on the dam embankment is not expected to proceed until after the war.

**Colorado River Project, Texas.**—Construction of Marshall Ford Dam, a concrete gravity structure 270 feet high and flanked on both ends by earth embankments, was completed in May 1942 except for some grouting of contraction joints. This work is planned for 1943. The power plant, constructed and operated by the Lower Colorado River Authority, has been in service since 1941.

**Columbia Basin Project, Washington.**—The contract work for the

completion of Grand Coulee Dam and left powerhouse was finished in January 1942. Water flowed over the spillway drum gates for the first time on June 1, 1942. Work during 1942 consisted of constructing the right powerhouse superstructure. This work, nearly completed, was stopped in November 1942, by order of the War Production Board. Two 108,000-kilowatt generating units, L-2 and L-1, were placed in operation during 1942. One similar unit, L-3, was placed in operation during 1941. It is expected that two of the Shasta Dam 75,000-kilowatt units will be installed in the left powerhouse at Grand Coulee Dam early in the year 1943. Work scheduled for 1943 consists primarily of installation of these hydroelectric generating units and the work connected therewith.

**Davis Dam Project, Arizona-Nevada.**—Notice to proceed with construction of Davis Dam and Power Plant was given to the Utah Construction Company, the successful bidder, in July 1942. By the latter part of the year the contractor had erected much of its construction camp and plant, and had commenced excavation in the diversion and spillway channel when, in November 1942, work was ordered stopped by the War Production Board. Work on the Government's main construction camp was unable to proceed because of lack of materials, but several temporary housing units and minor camp facilities were provided.

**Parker Dam Power Project, Arizona-California.**—Work on the power plant building below Parker Dam was completed during 1942. Two 30,000-kilowatt generating units were placed in operation in December 1942, and a similar unit was scheduled for completion early in 1943. A fourth 30,000-kilowatt unit is planned for operation in June 1943. Work on the switchyard and power lines is scheduled for completion in 1943.

### CORPS OF ENGINEERS FLOOD CONTROL PROJECTS

**The Corps of Engineers.**—Among

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the more important flood control structures completed by the Corps of Engineers during the calendar year 1942 are the local flood protection project at Wellsville, O. and the following flood control dams which were placed in operation: Surry Mountain, New Hampshire; Birch Hill, Massachusetts; Knightsville, Massachusetts; Whitney Point, New York; Indian Rock, Pennsylvania; Loyalhanna, Pennsylvania; Nimrod, Arkansas; Fort Supply, Oklahoma; Brea, California; Sepulveda, California; Mill Creek, Washington; Mud Mountain, Washington. In addition, the following local protection projects are nearly complete or have been completed to a point where a substantial degree of flood protection is available: East Hartford, Connecticut; Hornell, New York; Wilkes-Barre-Hanover Township, Pennsylvania; Kingston-Edwardsville, Pennsylvania; Huntington, West Virginia.

**Denison Reservoir, Texas and Oklahoma.**—Work was continued on the general flood control program at localities widely spread throughout the United States. The construction progress during the fiscal year 1942 on some of the principal flood control dams of the Corps of Engineers includes Denison Reservoir which is located on the Red River, approximately five miles northwest of Denison, Tex. The project provides for the construction of a rolled-fill earth dam 15,200 feet long rising 165 feet above the stream bed. The outlet works consisting of a gate-control house and eight conduits, each 20 feet in diameter, located on the right abutment, have been completed. Under a continuing contract for the construction of the main dam and excavation for the spillway, 6,673,000 cubic yards of common and rock excavation were excavated, and a total of 4,484,600 cubic yards of random boulders and impervious fill was placed. Construction of the main dam was approximately 51 per cent complete on June 30, 1942, and the relocation of the St. Louis-San Francisco Railway is underway.

**John Martin Reservoir, Colorado.**

—John Martin Reservoir is located on the Arkansas River about 18 miles above the city of Lamar, Col. The project provides for the construction of a concrete and earth-fill structure approximately 130 feet high with an overflow gated spillway 1,174 feet long. The earth section extending to the abutments will flank the concrete gravity section in the valley, and earth dikes on each abutment in continuation of the earth section will extend to high ground, making the over-all length of the structure approximately 3 miles. Construction of the dam and the appurtenant works under a continuing contract was continued during the current year, 421,000 cubic yards of concrete and 2,826,000 cubic yards of embankment being placed. Construction of the dam and appurtenant works was approximately 77 per cent complete on June 30, 1942.

**Norfolk Reservoir, Arkansas.**—Norfolk Reservoir is located on the North Fork River about 4.8 miles above its confluence with the White River near Norfolk in Baxter County, Arkansas. The project provides for the construction of a concrete gravity type dam about 2,624 feet long at the top and about 220 feet in maximum height. It will consist of a spillway section 568 feet long, located above the existing river channel and two non-overflow sections contiguous thereto and extending to the abutments. Operations during the year consisted of the construction of the project under a continuing contract including the construction of stream diversion works and the placing of 351,543 cubic yards of concrete. The construction of the dam was approximately 41 per cent complete on June 30, 1942.

**Canton Reservoir, Oklahoma.**—Canton Dam is located on the North Canadian River, about three miles north of Canton in Blaine County, Oklahoma. The project provides for the construction of an earth-fill dam 15,100 feet long at the top rising 68 feet above the valley floor. The outlet works will consist of three 7 x 12-foot gated sluices through the spill-



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way weir. A concrete spillway, controlled by 16 40 x 25-foot gates on the weir crest, will provide for the passage of flood flows around the right end of the dam into the river valley below. Under a continuing contract for the construction of the embankment and excavation of the spillway, 2,373,350 cubic yards of material was replaced. On June 30, 1942 the spillway excavation was approximately 75 per cent complete, and about 72 per cent of the embankment was completed.

**Dale Hollow Reservoir, Tennessee and Kentucky.**—Dale Hollow Dam is located on the Obey River, 7.3 miles above its confluence with the Cumberland River at Celina, Tenn. The project provides for the construction of a concrete gravity type dam about 1,700 feet long and 200 feet high. From the left abutment a 432-foot concrete non-overflow section will extend to a 400-foot concrete gravity spillway section located in the present stream channel. The spillway will be provided with four sluices for the control of floods. Operations during the year consisted of the initiation of the project and the preparation of plans and specifications for the power generating equipment which were placed on order. The construction of the dam and appurtenances was approximately 19 per cent complete on June 30, 1942.

**Santa Fe Dam, California.**—Santa Fe Dam is located on the San Gabriel River approximately 29 miles above its mouth. The project provides for a rolled-earth fill dam 24,100 feet long with a maximum height of 92 feet above the stream bed. An uncontrolled spillway, 1,200 feet long is located near the right abutment with outlet works through the dam near the center of the structure. The construction of the dam under a continuing contract was under way during the year, and 4,847,360 cubic yards of borrow pit excavation were removed and 4,790,688 cubic yards of the dam embankment and 44,968 cubic yards of concrete were placed. The project was about 36 per cent complete on June 30, 1942.

**Mississippi and Sacramento Rivers.**—Construction of the authorized flood control program in the alluvial valley of the Mississippi River and in the Sacramento River Valley was continued during the year. Construction on the Mississippi River project included the completion of the Arkabutla Dam, and work on the main line levees, cutoffs, bank protection and channel improvements. Work on the Sacramento River project consisted chiefly of the construction of levees, pumping stations, and bank revetments.

### NAVIGATION AND RELATED PROJECTS

**St. Lucie Spillway, Florida.**—The status of the principal projects for navigation and related purposes which involve structures is indicated in the following projects. Construction of the spillway to aid navigation on the St. Lucie River and Canal was advanced to near completion.

**Floodgates on the Gulf Intracoastal Waterway, Texas.**—Construction of sector type gates on the Brazos River Crossing of the Gulf Intracoastal Waterway to prevent shoaling of the waterway during times of flood on the river has been in progress. Two gates are to be constructed at this crossing, one on the east and one on the west side, together with a control house and a power control and lighting system for each floodgate. Funds have been provided for the construction of similar floodgates at the Colorado River crossing of the Intracoastal Waterway.

**Fort Peck Dam, Montana.**—Construction of power facilities was continued during the year.

**St. Marys Falls Canal, Michigan.**—Pursuant to the Act of Congress approved March 7, 1942, the construction of a new navigation lock on the St. Marys Falls Canal at Sault Ste. Marie, Michigan has been started.

**Bonneville Dam, Washington and Oregon.**—Construction of the power house extension was advanced during the year.

**The Tennessee Valley Authority.**

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—Just ten days after Pearl Harbor, Congress authorized the third emergency supplement to the Authority's power program. This supplement included the construction of the huge Fontana Dam on the Little Tennessee River, the Watauga and South Holston projects near Bristol, Tennessee-Virginia, and additional generating units at six main-river dams, one tributary dam, and two steam plants. On January 30, 1942 Congress approved the construction of the Douglas project on the French Broad River near Knoxville, Tenn., and on June 27 the Fort Loudoun Extension project was authorized. During the year, the third and fourth units at Pickwick Landing Dam were completed, as were the ninth, tenth, eleventh, and twelfth units at Wilson Dam. Work has continued on improvements to the Hales Bar project, which was built by private interests on the Tennessee River in 1914 and purchased by the TVA in 1939, and on Wilson Dam at Muscle Shoals, the raising of which was completed Nov. 1, 1942.

**Kentucky.**—The navigation lock was opened for temporary operation on Feb. 10, 1942. Concreting in the powerhouse substructure and in nine spillway bays (seven for river diversion during construction) and earth placing in the east embankment between the lock and powerhouse were completed in the stage I-B cofferdam. This cofferdam was flooded and removed, and construction of the stage 2 cofferdam, in which the remaining 15 spillway bays will be built, is practically finished. The War Production Board is permitting, according to present schedules, the installation of only two of the five authorized generating units.

### **Watts Bar Dam and Steam Plant.**

—Watts Bar Dam was closed Jan. 1, 1942, and the lock was permanently opened to navigation on Feb. 19, 1942. Three generating units were completed and placed in operation during the year, the first on Feb. 11, the second on April 6, and the third on July 23. The first unit at the Watts Bar Steam Plant was put on

the line on Feb. 15, and the second on March 16, 1942. The third unit, which was authorized April 5, 1941, will be completed soon; but the fourth unit, which was a part of the third emergency supplement, has been stopped by the War Production Board.

**Fort Loudoun Dam.**—Construction of the lock and of 10½ spillway bays, of which nine are for river diversion, was completed in the first-stage cofferdam in April 1942. Construction of the powerhouse and the remaining 3½ spillway bays is proceeding rapidly in the second-stage cofferdam. Two generating units, will be installed initially, but work on the third and fourth units, which were authorized Dec. 17, 1941, has been stopped by the War Production Board. The extension to the Fort Loudoun Dam across the Little Tennessee River will divert the flow of the Little Tennessee into the Fort Loudoun Reservoir. No work has been done on this project because of the lack of a sufficiently high priority rating.

**Cherokee Dam.**—Construction of the Cherokee project was started July 31, 1940, and the dam was closed Dec. 5, 1941. Two generating units have been put into commercial operation, one on April 16, and the other on June 17.

**Hiwassee Projects.**—Four projects on the Hiwassee River and its tributaries were authorized on July 16, 1941. The Nottely and Chatuge projects, which have no power installations but will be used for upstream storage only, were closed on Jan. 24 and Feb. 12, 1942, respectively. Construction of the Apalachia and Ocoee No. 3 Dams is practically completed, and work is being rushed on the long power tunnels and generating plants.

**Fontana Dam.**—The Fontana Dam will be the fourth largest concrete dam in the United States, and its 460-foot height will make it the highest dam east of the Rocky Mountains. The straight-gravity structure will have a total volume of 2,660,000 cubic yards of concrete. Separate spillway control works will be built

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near the east abutment and will consist of two 34-foot diameter, concrete-lined, inclined shafts connecting to the two 37-foot-diameter, unlined, river diversion tunnels. A separate low-level outlet tunnel through the west abutment will serve during construction for railroad access.

For the first several months after the authorization of the Fontana project on Dec. 17, 1941, construction work consisted of the erection of the T.V.A.'s largest camp and village, the construction plant which will produce all the aggregate and place all the concrete for the job, and a ten-mile-long access road. The camp and village will house an estimated 5,000 men and will include more than 350 houses, a score of dormitories, and hundreds of trailers and tents along with the necessary community buildings.

The Little Tennessee River was diverted around the dam site through one of the diversion tunnels in July. Concreting operations are scheduled to start early in 1943. The War Production Board will permit, according to present schedules, the installation of only two of the authorized generating units.

**Douglas Dam.**—The Douglas project, started Feb. 2, 1942, is scheduled for completion in the record-breaking time of 11 months. It will contain more than 460,000 cubic yards of concrete and 1,000,000 cubic yards of earth fill. It is similar in design to the Cherokee project; this permitted starting construction operations immediately upon authorization. The construction plant for the dam was moved from the recently completed Cherokee Dam, less than 20 miles away.

The main dam and powerhouse will be concrete structures; the saddle dams will be of earth fill. Construction is practically completed within the first-stage cofferdam which encloses the powerhouse, eight bays of the spillway, and the west non-over-flow section. The remaining three spillway bays and the east non-over-flow section will be constructed in the second stage. The first concrete

was placed on May 31, 1942, less than four months after the start of construction.

**South Holston and Watauga Dams.**—The South Holston Dam, on the South Fork of the Holston River, will be a combination earth and rock-fill structure with a maximum height of 285 feet and a morning-glory spillway, the lower portion of which will serve as a diversion tunnel during construction. The Watauga project, on the Watauga River, a tributary of the Holston, will also be a combination earth-and-rock-fill structure with a diversion tunnel. Both the South Holston and Watauga projects will have power installations and intake tunnels through the abutments. All work on these projects has been stopped by War Production Board order, although it is anticipated that the contractor will be permitted to complete driving and lining the diversion and power tunnels at this time.

### BRIDGES

**Charter Oak Bridge.**—The bridge at Hartford, Conn. was opened to traffic on Sept. 5. It contains as part of the 840 ft. main river crossing a 300-ft. girder which is the longest girder span ever constructed in the United States. It was one of the 270-ft. girders of this bridge which, owing to an erection accident, collapsed and fell in the Connecticut River on Dec. 4, 1941 (see *THE AMERICAN YEAR BOOK*, 1942, p. 690.) The total cost of this project was \$4,215,000.

**Dubuque Bridge.**—Already, concrete has been placed on the deck of the Iowa approach of the highway bridge across the Mississippi River at Dubuque, and this \$3,500,000 bridge will be opened early in 1943. (See *THE AMERICAN YEAR BOOK*, 1942, p. 690.)

**Mississippi River Bridge at Chester, Illinois.**—During the spring of this year, the 2,826 ft. bridge at Chester, Ill. was completed. Over the main channel, a 1,340-ft. long continuous through truss unit of two equal spans was used. It has a 22-ft. roadway and cost \$1,090,000.



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### **Pit River Bridge, California.**

This bridge, which is believed to be the highest double-deck bridge in the world, was put in service in March 1942. (See *THE AMERICAN YEAR BOOK*, 1942, p. 691.)

**Tacoma Narrows Bridge.**—Steel in the Tacoma Narrows Bridge, which failed on Nov. 7, 1940, is being salvaged. The 4,000 tons of wire are being reclaimed by a special unspinning procedure, and a similar weight of steel will be dismantled from the towers. Since the steel would have to be removed before a new bridge could be built, it was decided to do the work now to obtain the steel for war use.

**Bridge Awards.**—In May the American Institute of Steel Construction announced the results of its 14th annual contest. The Rainbow Bridge over the Niagara River at Niagara Falls, N. Y. was named the most beautiful monumental bridge built during 1941. It cost \$4,000,000. Two other winners in their classes were the Fairmount Boulevard Bridge, in Cuyahoga County, Ohio; and the Passaic River Bridge at Kearny, N. J.

### **BUILDINGS**

**General.**—Many records for speed of construction have been established since the war began. The use of reinforced concrete and timber has become much more important, and in some cases, has contributed greatly to the rapid construction. In one case, a frame warehouse 100 ft. by 320 ft. using 50 ft. timber trusses was completed 34 days after letting of the contract. Another frame building occupying an area of 356,000 sq. ft. and requiring 28 140-ft. trusses and 28 100-ft. trusses was completed in 60 days. A concrete factory, containing 1,500,000 sq. ft. of production space, was erected on a 50-day schedule.

The use of timber connectors has saved steel and timber. This system of timber connectors permits the use of 1 lb. of steel plus the necessary timber to replace 13.4 lbs. of structural steel. Also, construction with timber connectors makes it possible to

reduce the required lumber by 12 per cent.

The total national lumber requirements for 1942 were approximately 38,600,000,000 board feet, which is about 12 per cent greater than the requirements for 1941. The blimp hangar program of the U. S. Army requires large quantities of lumber. Each of the hangars (237 ft. x 1,000 ft. x 151 ft. high) uses 17,000,000 feet of structural lumber.

**R.C.A. Warehouse.**—Plywood was used as a structural material when it was employed as the webs of the 198 identical timber girders which were required in the construction of a large warehouse for the R.C.A. Manufacturing Company at Camden, N. J. early in the year. Because of metal shortages caused by the war, new materials or new uses for old materials are being found for structural purposes; however, some of these developments are so fundamentally sound that they will have a permanent place in the field of structural engineering. Timber, one of the oldest known structural materials, is regaining some of its old importance.

**Northwest Airlines Hangar.**—In the construction of the Northwest Airlines Hangar at Fargo, N. D. glued laminated wood arches were used. Their span of 152 ft. is believed to be the longest in this country for that type of construction.

**War Department Pentagon Building.**—This reinforced concrete building, believed to be the largest in the world, was started on Sept. 11, 1941 and finished late in 1942; however, the first permanent offices were available on April 28. It is five-sided in shape, five stories high with basement and sub-basement in some areas, and has 4,000,000 sq. ft. of floor space. Each of the five exterior sides is 921.6 ft. long while the sides around the six-acre central court are 360.8 ft. long. Pedestrian circulation within the building is by means of ramps leading from floor to floor and by radial corridors on each floor that branch out from the main corridors which encircle the inner court.



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### MISCELLANEOUS STRUCTURES

**Air Bases.**—The construction of air bases has become of great importance since the start of the war and considerable engineering effort has been spent for this purpose. Very frequently speed of construction is a vital factor. During the year, a 3,000-acre air base was completed in three months, despite a loss of nearly three weeks due to bad weather. Its construction involved the placing of 604,000 sq. yds. of concrete and 330,000 sq. yds. of asphaltic pavement required for the three 5,550 ft. runways, the apron, and taxi strips.

**Alcan Highway.**—Stretching for 1,800 miles from Dawson Creek, British Columbia to Gulkana and Fairbanks, Alaska, the Alcan Highway was officially dedicated at Kluane Lake on Nov. 20, 1942. Although not finished, a two-lane, graveled-surfaced truck route is completed for the full length and in useful military service.

**Chicago Subways.**—At the beginning of 1942, two routes were under construction. At that time, the tunnels for these two routes, Dearborn Street and State Street, were complete, as was the structural work for the stations. Shortage of materials caused a practical stoppage of work on the Dearborn Street route because a one-mile extension would be necessary for a connection to the elevated system in order for it to be useful. Contracts were awarded and the work practically completed for the inclined structures at the ends of the State Street route. These structures connect the tunnel to the elevated system. The architectural finish for the stations is almost completed for the State Street route, and the rails which had been purchased previously have been laid. Except for a few details, this line is ready to operate as part of the Rapid Transit System.

**Crab Orchard Reservoir.**—On Dec. 27, 1941, Crab Orchard Reservoir had filled and water was flowing over the spillway. Its 9-mile length and 100-mile shore line make it the largest artificial lake in Illinois. It extends most of the way from Carbonale to Marion, Ill.

**Pipelines.**—Laying of the world's largest oil pipelines was started Aug. 1, 1942. When finished, at a cost of \$95,000,000, it will have a main line length of 1,250 miles and a diameter of 24 inches. It connects the Texas oil fields to the refineries on the Atlantic seaboard. The 530-mile section between Longview, Tex. and Norris City, Ill. was scheduled for completion in February 1943, and the entire length should be available for use by June 1943.

**War Plant for Chrysler Corporation.**—This plant is said to be the largest in the country. The main building of the 19-building layout covers over 80 acres. The most interesting feature is that the design was changed from structural steel to concrete frame and multiple-arch thin-slab concrete roof when steel was banned for such projects. This special type of reinforced concrete framing required only 2.7 lbs. of steel per sq. ft. of floor area, whereas an original design in structural steel has called for 12.7 lbs.

**Wolf Creek Ordnance Plant.**—This \$28,000,000 shell loading project at Milan, Tenn. was completed in a little over ten months, and production operations were possible two months earlier than scheduled in the original program. The project is located on a 28,000-acre site and included more than 400 buildings, 91 miles of permanent blacktop roads, and 67 miles of standard gage railroad.

# MECHANICAL ENGINEERING

## MECHANICAL ENGINEERING

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### WAR EXPANSION IN ENGINEERING

Three days after the copy for this section of THE AMERICAN YEAR BOOK of 1941 was sent to the editor, Pearl Harbor was bombed and the declarations of states of war against the Axis nations followed. On account of the war, expansions for defense and preparedness noted for 1941 were greatly increased during 1942 not in a few plants but in many. In addition new plants for materials of all kinds, for airplanes, and for ships were added throughout this land. These have been equipped with machine tools, process machinery, apparatus, power plants, control buildings, laboratories and even housing. The amount of these increases can not be given at this time but it may be stated that by them equivalents of the high quotas of production announced by the President of the United States on our entrance into war are being met and exceeded.

Owing to censorship control the report in 1942 is based on that which has been permitted to be published in our technical and scientific journals. Much of the year's progress may be given only after peace treaties have been signed.

### EDUCATION AND TRAINING

The expanded production programs have called for an increase of more than 10,000,000 workers in the production army during the year 1942, of whom at least 100,000 are employed in engineering design, supervision, maintenance, inspection, and operation.

To meet the needs of mechanics and operators some companies have turned to the vocational schools for persons with preliminary trade training provided since 1940 by grants from the United States Government, to be followed by special experience at the plants. Others have used those with

no industrial experience for complete training by the employer.

After screening tests for aptitude and arithmetic to determine fitness of the non-industrial persons for training, one company has employed 30 per cent of those applying. These untrained employees are given 12 48-hour weeks of instruction in classes of from 15 to 25 students, including blueprint reading and use of precision instruments as well as special work on machine tools. This is coordinated with home study of books and blueprints. After this period the students are placed in the plant for six months. There are three two-month periods and at the end of each the wage scales are fixed after considering the elements of attendance, appearance, sincerity, initiative, self-reliance, safety, reliability, attentiveness, ambition, and production. Ninety-three per cent of those so trained remain in the plant. This training of workers includes both men and women and in many plants the women form a very appreciable portion of the total number of workers.

For the men and women of professional level special courses have been offered in schools of engineering for so-called Engineering, Science and Management Defense Training (now War Training) under the Office of Education of the United States. For the present ESMWT work, the preliminary estimated cost for the fiscal year 1942-43 was over \$20,000,000 of which \$348,000 was to be used for the training of physicists, \$488,000 for chemists, \$2,094,000 for supervisors, and \$17,255,000 for engineers. An aggregate enrollment of over 462,000 was authorized at the beginning of the year.

These courses have been planned to be refresher courses for those who are returning to engineering for emergency production, to fill certain specialized needs of engineers, to up-

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grade engineers now employed in subordinate positions, to train junior inspectors of ordnance material or electrical apparatus, to train men from industry for engineering work and also to train women with necessary educational prerequisites for engineering positions. Over 27,000 women were trained during the year 1941-1942. This was 7 per cent of those enrolled, and the percentage will be larger during this fiscal year. Although the age limits were 23 and 35 in the inception of the plan in 1940, this age limit has been extended to include men beyond the age for service in the armed forces. The training is of two classes: one, a training for workers employed during part of the day, and two, pre-employment training. The number in the latter courses rarely exceed 50 per cent of those enrolled in the western states, while in the east the percentage is much smaller; in some cases there are no pre-employment students.

The engineering schools of the country have accelerated their programs so that many of the classes of 1943 were graduated late in 1942 or early in 1943. Most schools have accelerated programs covering three years to complete the regular four-year courses of the past. The schools have also increased their enrollments as part of the war effort to prepare more engineers for the Army, Navy, and war production.

### MACHINE TOOLS

Not only have new machine tools been installed to meet special manufacturing requirements but in many cases old machine tools have been rebuilt or fitted with new parts to adapt them to particular work. In several plants gangs of special machine tools have been placed in a line for successive operations to save space, to save transportation, and to speed production. Tools have been issued on priority orders and at times rebuilding of old tools has permitted production while waiting for deliveries or has actually eliminated the need of new machines.

### SUBSTITUTE MATERIALS

Although the production of critical materials has been increased enormously, the utilization of these for war purposes has led to a study of the availability of substitutes for civilian uses and even war uses. Much research has shown suitability of new materials for important uses without loss of reliability or safety in operation. Copper molybdenum iron is used by some for nickel iron and reduces foundry costs; steel with limited chromium replaces chromenickel steel; zinc coated steel fins are employed for aluminum fins on copper tubes. A new tin free gear bronze of 12 per cent copper, 25 per cent nickel and 78 per cent antimony has been developed which will carry 25 per cent more load and run 15F cooler than the tin bronze which it replaces. In some plants products have been redesigned to use non-critical materials.

### WELDING

Not only has welding been applied extensively to the fabrication of steam boilers but during the year its use was further extended for the construction of many frames for machines and their parts and for the construction of steel frames for buildings and for ships, railroad cars, and airplanes. In the construction of machine parts the use of welded plate metal reduces the weight of iron required, accelerating the time of completion with fewer man hours. Moreover, for parts exposed to the flow of air, gas, or water, the welded joint offers less resistance than the screwed or riveted joint. A quarter century of development lies behind present day methods of welding, which included the training of welders and the testing of their products as well as the examination of welds by radiographs and other methods. Speed, accuracy, and dependability have been developed. New fields have been found to which welding may be applied.

The use of welded elbows in pipe lines has greatly reduced the friction losses as there are no sudden changes in the section which occurs in screwed

cast fittings. Experiments with water flow indicates a 60 per cent reduction in friction loss.

The only all-welded locomotive boiler in the United States has been operating for over five years and on yearly inspection has been hydrostatically tested to 150 per cent of its working pressure of 225 psi. During the five years it has operated over 264,000 miles. This experience indicates that the advantages of welding should be extended to locomotive boilers.

For repairs to running gear, frames, and cylinders of locomotives, welding has been applied with success. In all industries many machines, parts, and structures have been salvaged from the scrap pile by this effective procedure.

## POWER PLANTS

The demand for power increased enormously during the year. With a generating capacity of 47,000,000 kw for the country and a peak load of 37,500,000 kw, it is evident that through pooling by integration of plants in a given region much higher peaks may be carried with present equipment. During the year, 2,200,000 kw of steam-driven generators were added to the nation's capacity, as well as 1,000,000 kw of generators driven by hydraulic turbines.

The 104 steam turbines, ordered for delivery during 1942 and 1943, totaled 3,825,000 kw and varied in size from 150,000 kw to 10,000 kw. Three quarters of this power is hydrogen cooled and for units below 20,000 kw the generators are air cooled. Ninety-one per cent of the power is supplied by condensing turbines. Two of the three units of 150,000 kw capacity are cross compounded and operated between 850 psi with 900F and one inch of mercury back pressure. The low pressure units operate at 1800 rpm, while the high pressure units operate at 3600 rpm. There are four regenerative bleed states. The third unit is a single shaft tandem unit at 1800 rpm with steam at 1250 psi and 900F with five point extraction. The high pressure casing is made of two

cylinders, one within the other to care for temperature variation.

To guide the designers as to the form of units, scale models have been made for study and to guide them in the design of blades, vibrations of these parts have been studied from photographs taken while the turbine is operating.

## STEAM POWER PLANT

To supplement supply and care for low water, one system developing two thirds of its power from hydro plants installed a third 80,000 kw steam unit at a new station. The second unit in an earlier station can operate from 4000 kw as a standby to full capacity of 80,000 kw. It is also constructed so that the generator may be disconnected from the turbine to operate as a synchronous condenser. When so needed it is started by the 300 kw direct connected exciter operated as a motor with power from the station 500 kw motor-generator set. The turbine is connected to a Babcock and Wilcox boiler delivering 900,000 pounds of steam per hour at 1320 psi and 903F. There are 7309 sq. ft. of water surfaces, 9779 sq. ft. of furnace walls, 25,200 sq. ft. of pendant superheaters, 26,900 sq. ft. of economizers, and 147,500 sq. ft. of tubular air heater. Dust catchers are installed in the flues. The furnace of 43,520 cu. ft. is built for heat release from pulverized coal of 23,000 Btu per cu. ft. hr.

Special metering for condition of feed water, boiler water, and flue gas is installed. Steam purity is also measured as well as hydrogen emission. Compressed air soot blowers at 250 psi are used. These take no steam from boiler and do not require the heating of the pipes. They also reduce the wear on boiler tubes from water of condensation. The soot blowers in the hot zones are retractable.

The steam turbine operating at 1250 psi 900F has six bleed points, three for contact heaters and three for surface heaters. The condenser contains 58,600 sq. ft. of  $\frac{7}{8}$  in. tubes, 29 ft. 8½ in. long placed in a welded



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shell. One-half of the condenser may be cleaned while operating.

The boiler feed pumps are 8-stage and 9-stage centrifugals at 3600 rpm. They are driven by 2 to 1 hydraulic couplings with speed variation to give the proper feed pressure across a three-element feed water control. The makeup water is conditioned and sent to evaporators. The auxiliaries of this unit, consume 6 per cent of the generator output taken from service transformers.

This is but one of a number of large steam unit stations of the year. Units of this size have been added at other parts of the United States, and the regenerative cycle is common to all of them. In one station situated at no great distance from a populated district, Cottrell precipitators have been added to prevent the discharge of fey ash. At one place adjustable blade propeller pumps of 83,000 gpm are installed to care for the variation of level of the condensing water supply. In some of the plants water for makeup is treated before entering the evaporators operated by steam fed from one of the bleed points. In most of these stations the arrangement of the condenser tubes, steam flow, and condensing water characteristics require surfaces of from 0.75 to 0.9 sq. ft. per kw capacity.

### TOPPING UNITS

During the year a number of topping units were added to plants to increase capacity and efficiency without increasing the demand for condensing water. In some of these plants bleeder turbines have been used in place of a high pressure turbine exhausting into the steam mains of the old plant at pressure carried by that plant, while the remainder of the steam passes to the lower stages of the turbine and into the condenser. In a municipal plant with six units of a total capacity of 50,000 kw operating at 250 psi, a new 12,500 kw topping unit at 650 psi and 825F was installed in a new building, together with a new 25,000 kw condensing unit which receives part of the steam from the high pressure unit. The steam is sup-

plied by three 3-drum Foster-Wheeler boilers each delivering 300,000 lb. steam per hour with large convection superheaters and bare furnace water walls. Noise in this station has been reduced by the use of one-inch acoustone on surfaces of turbine room and pump room.

### MOBILE POWER PLANTS

For quick availability, mobile power plants have been constructed, using two special railroad cars of standard gauge, each on two eight-wheel trucks. One car carries the boiler producing 140,000 pounds of steam per hour at 550 psi and 825F, fuel tank and forced draft fan; the other carries a 10,000 kw turbo-generator of 3600 rpm and 13,800 volts with condenser, pumps, and switch gear. Each car weighs 200 tons. Another car is equipped as a substation.

### HYDRAULIC POWER PLANTS AND PUMPING STATIONS

The Grand Coulee Power plant, when complete, will contain 18 Francis turbines of 150,000 hp connected to 108,000 kw generators. Generator rotors weigh 537 tons and the 44-inch shaft 200 tons. The wheel, shaft, and rotor weighing 800 tons are carried on an 8-foot Kingsbury bearing. The total unit weighs 1,750 tons. The 45-foot generators are for 60-cycle, 13,800 volt current at 120 rpm, and have an efficiency of 97.4 per cent at full load and 93.4 per cent at one-quarter load. The turbines have an efficiency of 90 per cent or more above 120,000 hp. There are three transformers for each unit. Each measures 20 ft. x 12 ft. and is 20 ft. high. They are oil emersed, water cooled, and filled with an inert gas, stepping voltage to 230,000 or 115,000 volts. The penstocks are 18 ft. in diameter and 51 ft. 5½ in. long.

Many other hydro-electric plants were constructed or enlarged during the year. In all cases the turbines were Kaplan, Francis, or Pelton, depending on the characteristics of the installation. In general the efficiencies have been at least 90 per cent.

At periods of excess water at one

station, pumps have been suggested for other stations so that these may lift water to its reservoir for use at peak load. Designs have been made during many years for a wheel which might be operated as a turbine for part of the time and as a pump when desired. The results of tests on the model of such a pump-turbine built by the Newport News Shipbuilding and Dry Dock Company were published in 1942. They show that a turbine of 50,000 hp with an efficiency of 90 per cent may be operated as a pump discharging 1200 cfs. against a head of 345 ft. with an efficiency of 93 per cent. The wicket regulating gates of the turbine become the diffuser vanes of the pump.

An adjustable blade axial-flow pump is being built for impounding additional water for a high head plant and to provide flood control by transferring water from one shed to another. The pump will handle 1800 cfs. under heads varying from 15 ft. to 28 ft. The adjustable blade provides a greater efficiency over this range of head as the blades of the Kaplan turbine maintain efficiency over a range of water flow.

### WIND POWER PLANT

The 1000 kw wind power plant at Grandpa's Knob near Rutland, Vt. carried full power 25 per cent of the time during its first year of operation. As mentioned in 1941 the span of the wings is 175 ft. vertically, the wings being 11 ft. x 65 ft. The highest wind recorded was 54 mph.

### STATION DESIGN

In one large municipal station the final design conditions were determined by calculations of costs for different prices of oil at different station load factors and at steam conditions of 400 psi and 750F, 650 psi and 825F, 850 psi and 900F, 1,250 psi and 900F. The final decision for conditions prevailing at the plant were 850 psi and 900F. To study the plant design as it progressed scale models of the structure and equipment were made.

### DIESEL ENGINE PLANTS

Diesel engines were applied extensively during the year for locomotive power, for central power plants, for rural electrification cooperatives, and for industrial power. The year marked the extension of super-charging the air supply for the purpose of increasing the power output for a given engine by 35 to 40 per cent without a great increase in the maximum pressure and of increasing the oxygen content for the retained gases by using some of this air for scavenging. The greater amount of oxygen from higher pressure and purer gas permits an increase in fuel charge and a larger indicator card with higher exhaust pressure. Supercharging to 75 psi gage by Sulzer Brothers gave an mep of 225 psi, while initial 15 psi gage gave an mep of 170 psi. The exhaust of the Diesel engine is delivered to a gas turbine using its pressure and temperature to deliver power to an air compressor for supercharging and in some cases resulting in excess power for other uses.

As pointed out in 1941, the Buchi system of supercharging the air supply for Diesel driven locomotives has been employed for many years by the American Locomotive Company in which the method is applied.

The Diesel locomotives have shown 77 per cent more train miles on the passenger service of the Burlington system than the best steam locomotives.

In municipal plants using Diesels of over 2000 hp operating costs of 0.68 cts per kwh are reported. The plant at Carthage, Mo., has been operating Diesel engines for 16½ years at an operating cost of 4.6 mills to 5.6 mills per kwh. In this plant 12.9 kwh are obtained per gallon of fuel oil. The fuel cost is approximately 2.7 mills per kwh. The lubrication costs 0.167 mills and maintenance 0.48 mills.

In some of the latter stations units of 3000 kwh are installed and in smaller localities units of 300 hp. Even small units with 40 per cent load factor and fuel oil at 5.26 cents per gallon have produced a kwh at

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7.4 mls for operating cost exclusive of fixed charges.

During the year radial Diesel engines of 600 hp with vertical shafts were produced for stationary and marine use.

### BOILERS

One of the outstanding large boilers of the year was that built by the Combustion Engineering Company for an eastern power plant in which forced circulation is used. Although many boilers with forced circulation have been used in Europe, this is the first large unit in this country. The boiler produces 650,000 pounds of steam per hour at 1825 psi and 960F for a topping turbine. The water is circulated by two 3500 gpm pumps with 50 psi differential pressure, requiring about 0.3 per cent of the boiler output. As the water capacity of the boiler is 7,800 gallons, these change the water every minute, increasing the rate of heat transfer and preventing the formation of steam pockets. To control the flow through each parallel path, orifices are used at the ends. This circulation is independent of the load. There are 11.9 miles of  $1\frac{1}{4}$  in. tubes in the fire box, 2.3 miles in the economizer, and 7.1 miles in the superheater. These with one mile of miscellaneous tubing gives a total of 22.3 miles of tubes. There were 2,640 welds made in the field. The surface of the boiler proper and that of the primary superheater receive heat by radiation, as well as convection from the 24 tangentially fired burners for pulverized fuel and oil. The secondary superheater is of the convection type, and the temperature of superheat is controlled by bypass dampers. The main drum of the boiler is 43 feet long, with a 54-inch inside diameter. The thickness of this welded drum is  $4\frac{23}{32}$  inches. Attached to the boiler is a reheater receiving steam from the 25,000 kw high pressure unit at 372 psi. This reheats the exhaust steam to 765 F before it is delivered to the other turbines of the station. The economizer section of the boiler receives water at 440F.

An air preheater is used to increase the efficiency of the boiler.

Pulverized anthracite coal has been burned under boilers for a number of years. A small installation made in 1918 was abandoned in 1928 but a larger one of 1920 is still in operation on boilers of approximately 5,000 and 6,000 sq. ft. of water heating surface. A boiler installed in 1928 contains 17,700 sq. ft. of heating surface with a furnace heat release of 16,000 Btu per cu. ft. hr. Boilers recently installed at another plant and operating at 1325 psi and 930F will produce 365,000 pounds of steam per hour with pulverized anthracite coal. Preheaters supply air at 590F at full load. About 8 per cent of this air will enter with the coal. Secondary air enters through the front walls and tertiary air, which may amount to 40 per cent, will enter around the burners. The furnace volume of 25,000 cu. ft. has a heat release of 20,000 Btu per cu. ft. hr. The furnace coal travel is 75 ft. This plant will make use of the extremely small anthracite tailings which have little, if any, commercial use. Great quantities of this cheap fuel are found in the hard coal district.

### AIR HEATERS

Experience in air preheaters for boilers extending over 15 years points out that their selection is primarily an economic question. The surface is, of course, relatively inexpensive compared with the cost of boiler surface but the temperature to which the fuel gases may be cooled is fixed by the dew point of the sulphur gas mixture which will cause corrosion on condensation, and the temperature to which the air may be heated depends upon the type of boiler firing. The former limit is 250F to 300F and the latter is 300F to 400F for stoker firing and 500F to 600F with pulverized fuels or oil. With these limits the initial cost, the operating cost, and the maintenance must be balanced against the regain of energy.

Experience with plate heaters has shown excellent results at one station for 11 years and poor results at an-



other plant after two years and four years of operation. Tubular air heaters at another station required retubing after 10 years. Both electric resistance welded tubes and lap welded tubes gave similar performance. Regenerative rotating air preheaters have also required considerable maintenance due to corrosion. To prevent this corrosion it has been found desirable to by-pass some of the air supply during periods of low load to maintain the temperature of the fuel gases at outlet above the point of condensation of the acid gases.

The performance of the different air preheaters are about the same, the gases being cooled 350F and the air heated 500F. The Air Preheater Corporation report 568 Ljungstrom rotating regenerative heaters in 1940, the yearly replacement cost for heating surfaces amounted to 1.27 per cent of the heater costs while replacements of parts except heating surfaces amounted to 1.32 per cent. During five years from 1936 to 1941, there was approximately an even division between Ljungstrom regenerative heaters and tubular heaters with a small percentage of plate heaters. For large boilers there has been a preference for Ljungstrom heaters. The smaller space requirements of this device is an important consideration.

### RAILROADS

Passenger and freight equipment was taxed to the utmost during the year but the improvements in motive power and car construction, in signals and in trackage during the preceding 10 to 15 years have enabled the demands to be met.

In motive power the steam pressures have been increased from 225 psi gage to 274 or 300 psi gage and the horsepower at higher speeds has increased in many cases 25 per cent with improvement in steam consumption per hp hr. On some transcontinental trains draw bar horse power of about 4800 has been reported which means a cylinder horse power of 5400. The use of roller bearings on axles and running gears with lighter

weight of reciprocating parts have so reduced inertia effects that higher speeds are possible with safety. Speeds as high as 75 mph have been used in planning operations.

Another reason for the continued reduction in time of passenger travel and freight delivery is the use of locomotives over longer distances without uncoupling and change. In 1918 they were used over more than one division by merely changing crews, and in 1922 this use was extended to four-crew runs for passenger service and three crew-runs for freight. Later this was extended to 1,500 to 1,800 miles for the former and 800 miles for the latter. Today very few trains are operated with the locomotive used over only one-crew district.

This service has also been associated with prompt inspection by a proper sized crew at the end of the run. This is completed in one hour for 50 per cent of the locomotives and rarely is two hours required. This thorough inspection has cut the out-of-service days for locomotives by 40 per cent. To keep the heavier schedules, changes have taken place in maintenance practice. Formerly boiler washouts were ordered after every 500 miles of service but this has been applied once a month, or from 6,000 to 9,000 miles as the average mileage on one large system is 318 miles per day for steam passenger locomotives, 167 miles for freight locomotives, and 94 miles for shifters. The operation of passenger Diesels is 17,117 miles per month on this system, with 11,000 for freights and 4,125 for switching. The application of roller bearings to driver boxes, engine, trailer, and tank trucks also reduces maintenance work and time.

Records of another line indicate that, although the average of 50 locomotives has been above 400 miles per day, ten locomotives actually made over 16,000 miles per month. Time is also reduced by the employment of locomotives which can be used for either passenger or freight service.

A number of large locomotives were added during the year. One



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road added 20 locomotives of 4-6-6-4 type with eight cylinders built for a maximum speed of 70 mph and capable of being used on 3 per cent grades and 20 degree curves. The 21 x 32 cylinders are supplied with superheated steam at 280 psi gage and drive 69 inch wheels. The tractive effort is 97,350 pounds. The total weight of locomotive and tender of 436,000 pounds is 1,063,000 pounds. Other large locomotives of 2-6-6-6 type weighing 1,150,000 lb. and 2-8-8-2 type weighing 960,000 lb. have been built for freight service, while one railroad has built a 2-6-6-4 locomotive of 948,600 lb. in its own shop. This locomotive is to be used for freight and passenger service and its 24 x 30 cylinders are supplied with steam at 274 psi gage.

Another road has installed locomotive operating with 300 psi gage on roller bearing equipment in which the side rods are arranged in tandem for flexibility.

One road has added 20 new Alco-General Electric Locomotives for passenger and freight services designed for 80 mph and with a tractive effort of 139,000 pounds. The locomotives may be used in two-car units, each with two 1000 hp 6-cylinder 4-cycle Diesel engines with Buchi turbochargers. Each car is equipped with two six-wheel trucks having motors on the outer axles. Eight axles of a 2-car unit are supplied from 4000 hp from the Diesels. The four engines of the two car unit are controlled by one throttle gear.

The demand for new equipment during the year was estimated in December at 1,000 locomotives for use in the United States and 300 for export with 104,000 new cars.

During the year the all welded locomotive, which was built by the Delaware and Hudson Railroad after permission from the Interstate Commerce Commission, completed its fiftieth year of freight service and with a record of 264,000 miles, in August 1942. It was built for 225 psi gage pressure, and at the annual inspection it was subject to 340 psi test pressure. The diameter of the shell of

the boiler tapers from 88 inches to 94 inches and has double butt welds for both circumferential and longitudinal seams for which an efficiency of 90 per cent was used with a factor of safety of 5 in determining thickness.

Centrifugal boiler feed pumps are used on some new locomotives.

For car construction a study has been made to improve the riding characteristics of passenger cars by controlling bolster action with links, bolster guides, free swinging hangers, lateral motion hydraulic energy absorbers, and elliptic spring covers. These are shown to be of great value.

A so-called pendulum car suspension has been reported in which the support of the car over the truck is placed above the center of gravity for the purpose of improving the smooth riding qualities.

Experiments have shown that car bearings may be improved by broaching and the use of thinned liners.

In Canada the use of double sheather plywood for 750 freight cars of the Canadian Pacific has saved over a ton of steel per car.

To reduce hazards of derailment safety guides have been applied to the truck frames behind the wheels to slide on the rails when such accidents occur.

### FUELS AND FUEL STORAGE

The great use of fuels for war production and for military purposes has placed an extra load on transportation facilities so that the Federal Government urged consumers of solid fuels to try to accumulate stocks in the summer months for winter use. This practice has been followed by central station managers for many years not only because of winter delays but because of other possible interruptions, and their practices have proven of value to guide those who have attempted to store larger quantities than usual during the open seasons of 1942.

In the storage of bituminous coal spontaneous combustion was formerly a danger and hence shallow piles were used but it has been found that if the coal is stored on prepared ground

and laid down in thin layers of two to four feet in thickness and then compacted by trucks, bulldozers, or scrapers driven by caterpillar tractors, there is little danger of ignition. In some cases the sides of these piles are protected by a layer of fine coal and tar, and the top is covered by lumps to prevent the wasting away of fines by the wind. The top surface should be crowned and arranged to drain without erosion. Air leakage into the pile must be prevented.

At Port Washington near Milwaukee, Wis., pile storage has been practiced for eight years, and one pile has been stored for three years. This coal has lost 1.66 per cent of its heating value in that time. For 14 months storage, the loss in another pile was 0.1 per cent.

Heating may be detected by odor, and in some cases temperature surveys may be made by driving in a pipe enclosing a thermocouple. Oxidation below 150F will not lead to ignition. Lignites, sub-bituminous, and class B bituminous coal are more apt to experience spontaneous heating and ignition when stored in piles.

Sometimes a pipe driven into a fire spot and then connected with a water hose will extinguish a fire and at other times the pile is sealed with asphalt or limestone dust for this purpose.

In regions served by water transportation a large storage yard may enable the plant to secure coal from more distant coal regions and improve the quality or the price.

Iowa coal with 15 per cent moisture, 32.8 per cent volatile matter, 34.6 per cent fixed carbon, 16.9 per cent ash, and a heating value of 9500 Btu per pound as received, has been pulverized and burned in a Stirling boiler with an efficiency of 83 per cent. The furnace with bare water walls had a heat release of 15,437 Btu per cu. ft. hr.

The storage of Colorado lignite in bins has been studied by the United States Bureau of Mines. This fuel has 24.1 per cent moisture, 29.1 per cent volatile matter, 42.7 per cent fixed carbon, and 4.1 per cent ash, and a

heating value of 9460 Btu per pound as received. The ash softens at 2,650F.

## MIXED OIL AND COAL FOR BOILER FUEL

The subject of mixtures of oil and fine coal for use in burners, which was studied in 1917-18, has again been proposed but its use for marine service in wartime is objectionable as a track of refuse remains behind the vessel. The mixture with finely ground coal is stabilized by metal scraps and fatty acids although coal tar is thought to be better than these for that purpose.

## PLANT OPERATION

The effect of scale deposits on the blades of steam turbines is reflected in the change in the pressure variation between different axial positions along the shell, in a reduction of capacity, and in a reduction of efficiency. The first two effects can be used to judge the amount of scale and the need for its removal. An increase of 1 per cent in the weighted average of change in steam pressure points means a decrease of 1 per cent in efficiency. The pressure changes are weighted by the energy change at any section.

Steam turbines are provided with initial steam pressure governors in addition to the governors for speed control, which are so arranged that should the supply pressure fall some limited amount as 10 per cent due to a lack of steam, the supply to the turbine is reduced, causing other turbines of the system to take the load. When the pressure is restored the regular governors control.

The use of load center distribution for factories has resulted in savings of 18 per cent in steel, 46 per cent in copper, and 5 per cent in other materials. The overall saving in value amounts to 21 per cent.

Combustion safety guards for oil firing have been devised to prevent explosions which occur during starting fires or in reestablishment of ignition after an interruption. The equipment prevents ignition until the furnace is purged of all fuel, and all

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explosive mixtures are removed from the combustion space. After this a switch with a time relay operates to supply ignition oil and light it, and the continuance of this flame opens the main fuel supply. If the main flame fails the burner is shut down.

Corrosion of boiler surfaces has been eliminated by maintaining the proper pH of boiler waters and this also leads to a change in the nature of the sludge so that it is easily removed by the blow down.

### AIR CONDITIONING

The air conditioning of manufacturing plants was greatly extended during the year in which structures covering acres of floor space have been constructed for work requiring uniformity of atmospheric conditions for comfort and by the nature of the product or for production methods. In some of these plants 2,000 to 7,000 tons of refrigeration are required to hold the working space at 76F with 46% RH when removing heat from operators, motors, light and heat infiltration from the outside. In the largest installation reported, 13,200 tons of refrigeration are required for 3,900,000 cfm of conditioned air.

The cabs of cranes used in steel mills which work in air at 165F over ladels have been insulated and air conditioned. Two-way radio communication is used for questions, orders, and replies.

Ozone is still being used to remove disagreeable odors from air supply.

### HEATING AND VENTILATION

A large department store of one story and containing 110,750 square feet has been built without windows and with a concrete roof with two inches of insulation. The ventilation and air conditioning is accomplished by ducts varying from 12 x 12 to 150 x 40, and of a total length of 1½ miles. There are five conditioning units with a total discharge of 160,000 cfm. The refrigeration unit has a capacity of 350 tons. The heating of the building requires 20,000 sq. ft. of equivalent direct radiation.

In one plant the refrigerating load

for air conditioning was reduced from 249 tons by 20 tons as a result of flooding the roof of the 200 x 120 building with water.

Some factories have solved the problem of heating without extensive duct systems and steam pipes by the use of direct fired unit heater of capacities of 1,000,000 Btu per hr.

Panel heating by radiation is being extended. Experiments show that there must be a balance between the effective temperature of the room and that of the surfaces. An E.F. of 60F with radiation panel surfaces at 80F gave good results.

For heating and ventilating a new gymnasium the high velocity of 2000 fpm in air discharge has been used to cover the great distances in a large room.

In a plant manufacturing films, the ducts have been made of cloth, exposed in the rooms. When not supplying air they collapse but under air pressure they distend, distribute the air uniformly, and filter out any dirt in the recirculated air.

In one case the Dorex adsorbers are used to purify air supply from atmospheric regions in which there are dusts from manufacturing processes.

The Westinghouse Electric and Manufacturing Company is continuing to install their violet light tubes in the ducts carrying ventilating air for the purpose of removing bacterial contaminations. For the purpose of removing dust from air, Westinghouse has developed their "Precipitron" units. These contain a fine wire at a high d.c. potential and two grounded electrodes which create a non-uniform electric field in which particles are charged or ionized. The next part consists of a cell of parallel metallic plates so arranged that a high uniform voltage gradient occurs between them. The charged particles are attracted to plates of opposite sign. In addition to these the third part of the unit consists of a power pack consisting of a transformer, rectifier, and capacitor to supply the high d.c. potential to the ionizer and collector cells. The cells of two square foot frontal area will treat 750 cfm and 50 of them may

be supplied from one power pack. The energy consumption is 0.01 to 0.02 kw per 1000 cfm.

The transmission of vapors through surfaces in grains of moisture per sq. ft. hr. for vapor pressure differences of 1 lb. per sq. in. was tabulated in *Heating and Ventilating* for September 1942. This permeability constant is important in air conditioning for the control of humidity in a space with humidity different from that on the other sides of its six faces.

The Census of 1940 reports that of the 34,144,370 homes in the United States, 58 per cent have no central heating system, that 32 per cent use coal or coke in central heaters, 3.2 per cent use gas, 4.9 per cent use fuel oil, and 1.9 per cent use other sources of heat or have not reported the fuel for central heating. About 21.7 per cent use steam or hot water and 20.5 per cent use warm air.

#### FUEL OIL RATIONING

To reduce the use of fuel oil for heating buildings, two-thirds of the amount needed for a normal heating season has been allotted to householders or landlords by the Government for 1942-43. The amount for the normal year has been computed by consideration of the amount used from May 31, 1941 to May 31, 1942 (which had a deficiency of 11 per cent from the normal degree days in certain regions) by considering the square feet of the house or building to be heated and by considering the number of persons in the house. The number of persons fixes the maximum floor area (called the ceiling) for which a ration will be issued, and in a few cases this area is less than the actual area of the residence. Using the area of the house (or the ceiling if smaller), the maximum ration or range for different areas has been tabulated for 22 different regions in the rationed sections of the country. After this a minimum range and a middle range are found for the house area from the table. These are then compared with a so-called base which is two-thirds of the fuel oil used for heating after reducing the actual

amount to that for a normal year. Then there is a special base which is 87 per cent of the adjusted amount. These are tabulated in 16 tables for different parts of the country. If the base falls between the maximum and minimum range, the base is used for the heating ration. If the base is greater than the maximum range, then the maximum range is used. If the base is below the minimum range, then the special base is compared with the minimum range and the smaller of the two is the heating ration. To this is added for each month an allowance for heating water of 10 gallons plus 3 1/3 gallons per person, and 100 gallons for any number of children under four years of age. In computing the fuel used for heating, the fuel used for hot water in 1941 is subtracted from the certified purchased fuel or the required fuel oil consistent with it. The oil used for hot water in 1941 is computed by a monthly allowance of 15 gallons plus five gallons per person. This gives the historic heating oil for which the bases and special bases for different regions are tabulated.

For heating buildings other than private residences, the fuel required as shown to be consistent with the certified purchases of 1941 is used for the determination of the base which is the ration.

Where a residence has been heated for part of 1941 or because rooms were cut off during that period, the purchased amount is not considered but the so-called middle range becomes the ration for space heating. If in case of a building other than a private residence, there was a peculiar condition during 1941, the local rationing board may require a certificate from a qualified person stating the amount of fuel oil required for a normal heating season. In all of these tables the degree days for the locality have been used. Degree days are the summation of the differences between 65 degrees and the mean temperature below 65 of each day in the year.

The Anthracite Industries Laboratory made a survey of a sample of 1000 installations of oil burning equip-



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ment from among 250,000 oil fuel heating plants using this fuel and has found that 23 per cent of them had equipment on hand for conversion to coal but 7 per cent needed pumps. A total of 50 per cent could be easily converted for the use; for 30 per cent conversion was difficult or not practical, and for 16 per cent the control problem made conversion impractical.

### REFRIGERATION

During 1942 the practice of dehumidifying the air supply for blast furnaces was resumed for a number of furnaces to increase the capacity of the furnace and the quality of the pig iron at this time of emergency. James Gayley experimented on this method in 1890 and made an actual application in 1904 for one of the Carnegie furnaces at Etna, Penn. This was abandoned in 1916 on account of costs.

For 1,000 tons of pig iron, 2,000 tons of ore, 900 tons of coke, and 500 tons of limestone require 4,000 tons of air containing seven tons of moisture at times although this is variable. By cooling this air to a definite temperature just above freezing not only is the moisture reduced but it remains the same regardless of weather conditions. To cool this air 790 tons of refrigeration are required but because of the smaller volume of the air less power is needed to compress it. In one of the recent furnaces of 1,000 tons per day the saving in six months was 2,900,000 kw hr, more than enough to operate the blowers. The capacity of the furnace was increased 14 per cent and the saving in coke was 4 per cent. The furnace operated more smoothly and the composition of the iron was more uniform. All of these results were achieved by Gayley also with dry air, although he used less than three grains per cu. ft. which is the practice today.

### MACHINE PRACTICE

Hydraulic couplings are being used for the drives of auxiliary apparatus requiring speed changes.

The use of oxy-acetylene flame to harden the working surfaces of ma-

chine parts, although practiced for 15 years, was extensively employed during the year. The flame heats the metal to a temperature above the critical and the metal is then quenched, giving a  $\frac{1}{4}$ -inch skin hardened case with a soft core. Practically no failures have occurred in flame hardened parts. The flame heads which are water cooled have many nozzles adjusted to the contour of the part to be hardened. About  $\frac{1}{2}$  inch from the last gas jet, water is directed for immediate quenching so as not to interfere with the flame. There are four methods of application: stationary, progressive, spinning, and a combination.

Many shafts, piston rods, and valve rods of locomotives are being restored to full size by spray metal on the surface after preparing that surface, through rough turning with an undercut edge or by flattening the turned ridges. The surface is moved at the rate of 25 to 50 feet per minute and the metal spray gun is fed at a rate of  $\frac{1}{8}$  inch per revolution. One repaired piston rod has been in service for 165,000 miles of locomotive travel without wearing to the renewable limit. Air hose couplers are repaired at a cost of 3 per cent of the original price.

### RESEARCH, TESTING AND INSTRUMENTS

The application of sound level instruments to measure and analyze linear or torsional vibrations of machines has added another aid for the balancing.

To analyze the governor systems of steam turbines for speed regulation, sensitivity, rate of response and stability, instruments to give the angular velocity of the rotor, the travel of the governor and servo-motors, the hydraulic pressure corresponding to motions of the flyball governor and the electrical output of the generator have been devised to transmit proportionate electrical quantities to a standard oscillograph. Such a combination of instruments may be set up in three hours and a complete test will take four additional hours.

Defraction patterns from x-rays have again been applied to the determination of the composition of scale in boiler tubes and turbine blades although this method was known in 1916.

The determination of the forces developed in testing airplane models have been made at one wind tunnel by measuring the variations of the electric resistance in the wires suspending and holding the model.

Bridgman reports that he has reached hydrostatic pressures of 400,000 atmospheres or 6,000,000 psi in his high pressure investigations.

The Westinghouse Company has installed two 60,000 kva generators driven by a 6000 motor at 514 rpm for 60 cycles to permit a possible short circuit of 2,000,000 kva at 13.5 kilo-volts, or a current of 7500 amp for the purpose of testing interruptors, although some interrupters of slightly larger capacity have been built. The test plant is operated from a shielded central control desk. For the effect of ice and low temperature on the apparatus a refrigerated room held at  $-20^{\circ}\text{F}$  has been added to this test equipment.

Experiments made on sleeve bearings under intermittent loading have indicated that the friction of such is approximately the same as that for bearing with a steady load, that departure from film lubrication occurs only under more severe condition than those in ordinary automobile service and that babbit bearings wear but slightly, and do not score even under severe conditions causing departure from film lubrication.

The interest in surface finish continues and in bearings the better the surface finish the greater the bearing pressure at which seizing occurs. There appears to be a relation between the pressures and the product of the profilometer readings in the axial and in the circumferential directions. These profilometers trace the irregularities in the profiles of surfaces and record the measurements as numerical results, as the root of the mean square of the variations in profile heights in micro-inches. Grinding

may give from 30 micro-inches to 350, polish and emery cloth 16 micro-inches, while lapping stones in honing machines give 3 micro-inches rms.

In the testing of aircraft engines, the modern test stands include electric generators for loading by which 85 per cent of the energy is returned for use in the factory reducing the energy charge by 68 per cent.

The new army wind tunnel for the testing of full size models or actual crafts will produce wind velocities of 400 mph. It will be equipped with 40,000 hp in motor drives. These are of the variable speed type. To cut down the temperature rise in the air absorbing this energy, 30 per cent makeup of outside air is used. There are two stage propellers with 16 blades, 40 ft. in diameter.

A new test stand for studying design and performance of centrifugal pumps and propeller pumps, as well as their associated parts, has been installed by the Worthington Pump and Machinery Corporation. Pumps or models requiring 150 hp may be used in the stand and problems relating to cavitation in the pump or the pump installation may be studied by the variation of pressure within the closed stand. The design of this stand has utilized the experiences with the test stands of the California Institute of Technology and that of the Baldwin Southwark Corporation.

Ice prevention in front of the trash racks at the Grand Coulee Dam will be accomplished by air jets which mix the water at this point so that at the surface it will be at the temperature of maximum density,  $39^{\circ}\text{F}$ .

The Scoville Manufacturing Company calls attention to the fact that erosion of condenser tubes may be produced by the turbulence set up in the water passages by small scale deposits and points out that these should be prevented by proper screening or removed by frequent examination.

At the University of Oregon experiments are being made to determine the heat loss through wet building walls and at another experiment station tests are being made to determine the feasibility of placing the

heating boiler or unit in the attic of a house to eliminate the necessity of a cellar.

Experiments at Pittsburgh, Pennsylvania, made on the heat loss from cellar walls have shown that the temperature of the ground at a depth of 5 ft. and 21 ft. from the wall dropped from November 20 to April 8, and then rose until September 22. There was no response to short period changes in atmospheric temperature. There was little change at a depth of  $3\frac{1}{2}$  ft. and only slight variation at  $1\frac{3}{4}$  ft. At a depth of 9 inches there was a daily change in temperature. At a distance of nine feet from the wall there was an effect due to the heat loss from the cellar.

## CAUSTIC EMBRITTLEMENT

One of the failures which occurs in steam power boilers is rupture due to embrittlement of the steel which occurs around riveted joints. This occurred largely in boilers using artesian well feed water with much free sodium carbonate and in those using soda ash or caustic soda in the feed. It was also shown that concentrated caustic in the presence of steel would liberate free hydrogen which was occluded by the steel which became brittle. For these reasons the cause of failure was called caustic embrittlement. The concentration of the caustic occurred around the riveted joints. Prof. S. W. Parr of the University of Illinois made many of the early studies on this matter before 1920 and it was believed that the addition of a definite proportion of sodium sulphate would counteract the soda.

The work on this subject by the U. S. Bureau of Mines which began in 1932 was completed in the year. This work under the auspices of the Joint Research Committee on Boiler Feedwater Studies of the A.S.M.E. was supported by contributions from industry. The laboratory part of the

work was done at the Bureau of Mines and the practical application was made in the field by railroads and by industrial and public utility operators of boilers.

The laboratory has reported on the solubility of sodium sulphate between 150C and 350C in the presence of sodium hydroxide, sodium carbonate, sodium chloride, and sodium phosphate in four parts appearing in the *Journal of the American Chemical Society* during 1935 to 1937. After this a fundamental laboratory study of embrittlement was made which cast doubt upon the effectiveness of sodium sulphate as an inhibitor. The study indicated that a new composition of steel might be proof against embrittlement but that for boilers now in use there should be the elimination of these conditions: (a) An appreciable amount of sodium hydroxide with the absence of inhibiting agents and, at high pressures, the presence of silica; (b) leakage to atmosphere or perhaps the existence of small spaces in seams communicating to the water space of the boiler; (c) contact of concentrated solution with highly stressed metal as cracking has not been observed in metal unless stressed to near or above the yield point.

The research has developed the embrittlement detector, as described in THE AMERICAN YEAR BOOK for 1941 (see page 699). More than 1,000 specimens have been tested by this device on scores of boilers including many on locomotives.

The investigations with the detector has not confirmed the efficiency of sodium sulphate as a inhibitor. Lignin containing materials (waste sulphite liquor and tannin materials such as quebracho) and sodium nitrate up to 400 psi have been found to be inhibitors. The research has led some to eliminate alkalies which yield sodium hydroxide and in place phosphoric alkalies only are used.

# ELECTRICAL ENGINEERING

## ELECTRICAL ENGINEERING

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### SCOPE

The purpose of this section is to summarize and analyze developments in the field of electrical engineering pertaining to generation of electrical power, electrical machinery and devices, and research. Radio is not covered in this section. However, a true picture of new developments in the field can not now be obtained because a large percentage of the work has been directed exclusively to the war effort for the past several years. The number of persons doing this type of work has increased greatly, but the results of this effort have not been made available for publication. This should be emphasized, as it places severe limitations on the contents of this review.

### GENERATION

The total power generated by utilities for public use in 1941 was 164,946,000,000 kilowatthours. For the 12 months preceding June 30, 1942, the total production was 175,152,610,000 kilowatthours, an increase of 15 per cent over the corresponding period the year before. A report from the Federal Power Commission indicated that total production in 1943 will be close to 300,000,000,000 kilowatthours. Of this, the utilities will have generated an estimated 225,000,000,000 kilowatthours. The maximum power generated in a single week up to Dec. 1, 1942 was 3,774,891,000 kilowatthours in the week ended Oct. 31.

Meanwhile, the War Production Board, on May 1, issued an order setting up procedures for rationing electrical power when and if the need should occur. It provides for the elimination of non-essential uses and for the determination of quotas for rationing to specified essential users. It also includes orders requiring utilities to cooperate with one another in order to obtain most efficient use

of fuel and to build up water and fuel storage in places where shortages are likely to occur. As a further measure of protection, they are to make arrangements for tying in with private generating capacity. Power rationing went into effect in Canada on Sept. 20.

### MANUFACTURING

The U. S. Department of Commerce announced that total orders booked by manufacturers of electrical goods for the third quarter of 1942 was \$965,119,984 compared with \$629,027,540 for the same period of the previous year. Deliveries of three large manufacturers for the first nine months of the year amounted to \$148,000,000, \$370,000,000, and \$650,000,000. These figures represent increases of 15%, 37%, and 38% respectively, over the corresponding period the preceding year.

The War Production Board placed a limit on new capacity to be installed by utilities for the duration. This limit amounted to 5,300,000 kilowatts, of which 1,830,000 was to be installed during the latter part of 1942, 2,970,000 to be installed in 1943, and 500,000 in 1944. Of the total, 2,960,000 was for steam plants and 2,340,000 for hydro plants. Further orders have been cancelled. It is reported that the Navy will need 15,000,000 kilowatts new capacity by 1946.

### ELECTRICAL MACHINERY

Electrical machinery is normally rated with a safety factor that allows considerable overloads which, if of only short duration, will cause no serious damage or service interruption. Therefore, in certain cases where loads are stable or protective devices are employed, electrical equipment can be operated safely



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above nameplate ratings, although this may lower efficiencies; hence, in an effort to aid in supplying increased war production loads, the War Production Board requested the National Electrical Manufacturers Association to alter nameplate data on some equipment.

The above may readily be applied in the case of transformers where the limitation on load is the heat developed in the windings and coils. If the actual temperature of the copper in the winding is measured, the average load may in some cases be raised above the nameplate rating. If sufficient safety factor in electrical insulation is provided, the operating voltage may likewise be raised.

The transformer case is similar to that of ordinary cables for which maximum capacity is determined by the temperature limit of the cable insulation. Frequently the maximum rating may be exceeded without damage to the cable, depending on location or method of installation.

Because of a possible shortage of oil, it has been proposed that "Freon" or Nitrogen gas, which has good dielectric properties at high pressures, be used as an insulating medium in its place in transformers. The cost would probably be higher for the gas, and operating characteristics are not as good, but satisfactory operation can be obtained.

Forced oil cooling of power transformers has been extensively used by a number of manufacturers. In this method, the transformer oil can be circulated much more rapidly by means of pumps than it can with free circulation, hence, the heat transfer is much greater. The result is that less metal is needed in the transformer, so the size may be reduced. Forced oil cooling may in some cases also be applied to transformers already in service, allowing considerable increases in the load-carrying capacity.

A new type of current transformer came into use in the year. In contrast to the older type, it contains no iron, so that it does not have the

undesirable effects of hysteresis and eddy-current.

An interesting development in the generation of electric energy from wind power, is a plant located 2,000 feet above sea level, at Grandpa's Knob, Vermont. It is capable of producing output for at least 50 per cent of the time, and maximum output for 25 per cent of the time. It has been operated at wind velocities up to 54 miles per hour. This has been under development for a number of years. The present apparatus is rated at 1000 kw. A second plant will probably be rated at double this output.

A large increase in the need for unidirectional or direct current has occurred throughout industry in recent years. Much of this is a result of war expansion, as many vital metals are separated from their ores by electrochemical processes requiring this type of power. The use of grid-controlled, mercury vapor type rectifiers, known as ignitrons, to obtain this power directly from alternating current systems, has advanced from the experimental and developmental stages. Application of this equipment resulted in certain special problems in circuit design. Most notable of these is that of protection against the phenomenon of arc-back. Adequate protection has been provided, however, as is evidenced by the fact that equipment of this type with power capacity of more than 2,000,000 kilowatts has been installed. Units are rated up to 600 volts and 4000 amperes.

### EQUIPMENT DISTRIBUTION

A 120,000-volt, gas-filled cable was placed in service at the beginning of the year in Detroit. It is rated at 100,000 kva and consists of three single-conductor units contained in a seven-inch steel pipe operated with 200 pounds per square inch of gas pressure. The gas used is nitrogen. This line is 35,000 feet long and at least 42 inches below the surface of the ground. This is one of the first installations of its type. Gas-filled cables are believed to have definite advantages over oil-filled types which

have frequently been used. Gas-filled types have been more popular in Europe than in this country, and cables operating at 200 psi. have been designed to operate at 132,000 volts. Such cables are usually covered with a lead sheath, not by a steel pipe as in the present case reported from Detroit.

Two mobile power plants have been constructed for the Navy Department. These are each mounted on three railway cars and can deliver 10,000 kilowatts output. They are intended to be used wherever shortages of power occur due to increased war loads. The equipment used is generally of standard form. The main equipment on the three cars is, respectively, boiler, turbine-generator, and substation apparatus.

The first outdoor steam turbine generating plant has been completed at Burbank, Calif. with the installation of a 10,000 kilowatt unit. The arrangement allows for considerable expansion; at the present time two more units are to be installed. The savings in building construction costs are said to amount to \$60,000 for each of the units.

Air-cooled transformers have been used to advantage in mine distribution. Installation costs are low compared with the oil-cooled type as the fire hazard is less; hence, they do not have to be installed in vaults, and the method eliminates long secondary cable runs as the transformers may be placed close to the point where power is needed. The recent installation used transformers rated at 150 kva.

Voltage regulators normally should deliver output voltage which is independent of frequency, power factor of load, and input voltage. A new static regulator has been designed, which possesses two of these characteristics, performance depending on the frequency. However, this is not thought to be a serious handicap, as most power lines operate at reasonably constant frequency. The circuit contains a reactor and capacitor in series which are shunted across the load and

maintain a constant voltage across it, and a reactor and capacitor in parallel which are in series with the load and maintain constant current. The regulator has the further characteristic of a high speed of response being able to follow line changes within three cycles.

The detection of single-phase-to-ground faults on power lines has usually been obtained by means of relays operating from current transformers in the ground connection, which are sensitive to zero sequence currents. The disadvantage of this method, however, is that such a relay also is operated in the event of a double-phase-to-ground fault. In order to confine the operation to the former case, a new relay has been designed which is sensitive to zero sequence voltage but has an additional circuit which prevents operation if negative sequence voltage is also present. It may, however, be used only on systems on which the zero sequence impedance exceeds the negative sequence impedance.

#### TEST EQUIPMENT

Because circuit breakers must interrupt such large amounts of power to protect equipment in large generating stations, it is difficult for the manufacturer to test such breakers on the assembly line. The best test is usually made in the field where the power encountered in service is actually available. A new test station has been set up by one manufacturer, capable of delivering a 2,500,000 kva. short circuit for a short period of time. The rotors of the generators supplying this power are purposely constructed to have large moments of inertia. Thus, as a short circuit test usually lasts for only a fraction of a second, the energy stored in the rotor supplies the power; the driving motors of these machines are required to supply only sufficient power to bring the machine up to speed in a reasonable length of time.

#### MOTOR SPEED CONTROL

Recent construction of large wind tunnels has presented problems of

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controlling motors of large power ratings through a considerable range of speeds. Several methods may be used. Generally the apparatus consists of an alternating-current, wound-rotor induction motor as the driving motor and a number of smaller auxiliary motors and generators. The latter are arranged to take power from the slip rings on the rotor of the driving motor and convert it to a form that will enable it to be fed back into the power line. Speed control is acquired by means of adjustments on the auxiliary apparatus. The control arrangements may become very elaborate. In a recent application the driving motor was rated at 40,000 horsepower.

In cases where direct current motors should be used, a new system allows smooth speed control over ranges of 120 to 1 and has good speed regulation at a particular speed setting. The system used is based upon the well-known Ward-Leonard method, but there are certain modifications in the auxiliary exciting generator which in this case has three fields. Two of these fields operate together to provide the principal speed adjustment. The third winding supplies power for the main generator field.

### WELDING

The success of resistance welding operations in assembling metal pieces depends very much upon a series of accurately timed operations. Generally the duration of these operations is of the order of a fraction of a second, so that the timing must be done automatically by mechanical devices. Electronics has played a very important role in such timing equipment. Each separate type of weld usually requires adjustment of a number of timing mechanisms. A wide variety of circuits has been used and good design permits simple and accurate adjustment in each instance. Both low power vacuum tubes and high-current, gas-filled tubes are used. The latter actually conduct the high weld currents. Operations involved in making a weld are: (1) applica-

tion of pressure to the parts to be welded; (2) passage of accurately timed and measured electric current and making of the weld; (3) cooling of the weld; and (4) release of pressure.

### LIGHTING

Two major orders from the War Production Board restricted the manufacture of lamps during the year. One order reduced the number of fixtures and lamp sizes available for ordinary lighting purposes by about 50 per cent. The 50- and 75-watt bulb sizes are among those eliminated.

The other order prohibits the use of metal in fluorescent lamp reflectors. The industry has developed a number of non-metallic types which are made of pressed wood or plastic, are usually protected to reduce fire hazard, and have baked white enamel finishes to provide good reflection. It is expected that some of these new designs will represent improvements which may be carried over after the war. In spite of these restrictions, however, fluorescent lamp production is expected to reach 40,000,000 units this year.

A starting mechanism for fluorescent lamp auxiliaries has been developed which may be used where four lamps are used in a group. This unit replaces two units which were previously required.

For high intensity lighting, an improved mercury lamp has been made. It is claimed to be the most powerful in the world, having a rating of 3,000 watts. It is 55 inches long and has an output of 120,000 lumens.

### RAILROADS

Large electrically-operated locomotives continue to increase in popularity. One railroad is installing five 4,860 horsepower locomotives each of which can develop 9000 horsepower. Each is driven by six twin, single-phase, series motors. One of these units will replace three smaller units which have been in service for a number of years. In addition, this line has ordered twenty 2000 horsepower diesel electric locomotives, and

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another line is now using a diesel electric rated at 5400 horsepower.

### ELECTRONICS

The principle of secondary emission of electrons has been applied to many electronic devices to obtain high sensitivity or amplification. A new tube has been designed using secondary emission to obtain high speed switching or trigger action in addition to amplification. Although it is a relatively high impedance device, in triggering applications, which are normally well suited for gas tubes (thyratrons), it is not limited in speed of operation by the deionization time of gas as it contains no gas. It may be used in a variety of other circuit applications.

In order to increase the usefulness of the electron microscope, a comparatively simple adapter has been designed which, when mounted on the electron microscope, allows it to be used as a diffraction camera. The same specimen may be analyzed in either way and both transmission and reflection diffraction patterns may be obtained. Once the equipment is calibrated, it may be relied upon and good accuracy in measuring atomic lattice spacings has been obtained.

### HIGH FREQUENCY HEAT

A novel method for setting glue in the manufacture of plywood has been put into use. The plywood bundle assembled with wet glue is placed in a huge press, the upper and lower plates of which act as the electrodes of a condenser. The plywood bundle acts as the dielectric. Upon the application of radio frequency current of 2,000,000 cycles per second, friction of the molecules in the dielectric generates heat throughout the entire bundle. Temperatures as high as 300 degrees fahrenheit have been used. With about 600 kilowatts power the plywood may be set in a few minutes.

Another device using the principle of the induction furnace, uses high-frequency current to speed up the finishing process in the production of electrolytic tinplate. The electrolytic method of applying tin reduces the

use of tin to one-third the amount used in the dipping process.

The high frequency induction is very important in the surface hardening of metals. The current produced in the metal concentrates at the surface, hence high temperatures due to heat produced by these currents are obtained only at the surface where needed.

### COMMUNICATIONS

Reports in June, 1942 of the Bell Telephone System compared current business with that of 1939. Long distance calls had increased 50 per cent over the whole system, while at Washington, D. C. the figure was 175 per cent. The total number of calls in the entire system was 113,000,000 a day, an increase of 35 per cent. On Jan. 1, 1942 there were 23,521,000 telephones in the United States, a gain over the preceding year of 1,360,000.

The possibilities of a transoceanic cable for telephone service were outlined in an address by O. E. Buckley before the Institution of Electrical Engineers. Electrical waves can not be easily transmitted over wires of appreciable length without the use of a number of amplifiers or repeaters spaced at regular intervals along the line. Transoceanic cables have been used for telegraphy without such repeaters with fair success. However, it is impractical to transmit voice signals in this manner. The system proposed will contain vacuum tube repeaters manufactured as an integral part of a cable which may be laid on the ocean floor, as cable now in use is laid. Such a system, of course, has to compete with short-wave radiotelephony and problems of maintenance and cost still have to be studied.

Special telephone sets for the hard of hearing are already in use, which consist of an amplifier connected to the ordinary telephone. New designs have reduced the size of such amplifiers to a point where they may now be mounted inside the conventional hand set base. It is claimed that use of such sets would enable 90 per cent



of those bothered by hearing difficulties to have normal telephone conversations.

## X-RAY DIFFRACTION

An improved tube is now available for x-ray diffraction analysis. The improvements were obtained largely by the use of beryllium (a metal) for the window of the tube. As the window is a good electrical and heat conductor, the window may be placed close to the focal spot without fear of over heating or secondary electron bombardment. The construction results in smaller sized tubes, allowing close approach to the focal spot. Thus, higher intensity x-ray beams may be obtained. The low absorption coefficient of beryllium contributes to greater intensity. It is interesting to note that some of the features of shockproof and rayproof design now extensively used in commercial radiographic tubes have been incorporated in the present design.

In order to obtain more useful radiation from an x-ray tube a third element, similar to the grid in an ordinary triode vacuum tube, was placed in the tube. The limitation on output from an x-ray tube is the amount of heat dissipated at the anode. The output increases rapidly as the voltage applied between anode and cathode is increased, so that if the relative x-ray outputs are compared, the heat developed per unit x-ray output is greater at lower voltages. The efficiency can be improved by restricting the current so it flows at the higher voltages. Such current control has been successfully accomplished with the use of a grid and controlling voltage.

A new Van de Graaff electrostatic generator has been completed at the Massachusetts Institute of Technology. It is claimed to be capable of producing 4,000,000 volt electrons. When these bombard a gold target, x-rays are produced. The radiation obtainable is more penetrating than the gamma rays of radium and the intensity is greater than that produced by the world supply of radium

## MEDICAL X-RAY UNITS

The Army Medical School, with the cooperation of the manufacturer, has developed a compact x-ray unit which may be used on wounded soldiers at the front lines. The machine may be transported by airplane in three small cases and requires only a few minutes to set up. During the year this equipment was well tested. Wounded soldiers, still on stretchers, can be placed on the machine and a bullet or piece of shrapnel may be located within 40 seconds. Larger field units which can be assembled in six minutes and require a tent dark-room, are also in use.

## INSTRUMENTS

The advantages of magnetic tapes in recording are well known. They have now been employed in a transient analyzer designed particularly for use with welding equipment. It has been found desirable to use a carrier frequency of 2200 cycles. The transient modulates this carrier. The device will record up to 500 cycles which is sufficient for reproducing welding transients; it is constructed so as to record only when the transient takes place.

A direct-current meter, which uses a moving permanent magnet, has been designed for use as a battery-testing voltmeter. Current flows in a fixed coil and the position of the rotating magnet is determined by the magnitude of the magnetic field present. The essential parts are contained in a small cup  $\frac{3}{4}$  inch in diameter and  $\frac{1}{2}$  inch long. The device may be adequately shielded from stray magnetic fields. In contrast to the moving coil or D'Arsonval type of instrument, now widely in use, this device is more rugged and it may be designed with sensitivities adequate for most purposes although it is not believed that the same maximum sensitivities can be obtained.

A direct-current telemeter has also been developed. This device can be used as a remote indicator in a manner similar to the alternating-current (Selsyn) system. It was designed primarily for use on airplanes where an

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instrument lighter in weight than present devices was desired. It may be used to transmit indications of pressure, temperature, liquid level, and the position of various controlling members of the airplane. The system is simple, consisting primarily of two parts; the transmitter, mounted at the position where the measurement is to be made, and the receiver, mounted on the instrument panel. The quantity being measured determines the position of a set of sliding contacts on the transmitter which in turn determine the position of a magnetic field at the receiver. A small permanent magnet at the receiver, connected to the indicating pointer, will automatically line up with the magnetic field. The biggest disadvantage in this arrangement is the set of sliding contacts which are likely to be subject to wear or friction.

A simple circuit is used in an electronic device which will check the cam settings on internal combustion engines. It measures the length of time of operation of the electrical contact in the ignition circuit. It consists of two tubes, a diode and a grid controlled gas tube. An important advantage of the device is that it absorbs little electrical power from the ignition system.

## INDUSTRIAL INSTRUMENTS

Eddy currents have been used to detect flaws in non-magnetic materials. A vacuum-tube oscillator operating at frequencies of 500 or 1000 cycles sets up fields which are detected by coils connected in a bridge circuit. Changes in phase or magnitude in the eddy current pattern because of flaws cause unbalances in the bridge circuit.

A different instrument has been designed to detect flaws in heat treated steel (magnetic) parts. An external magnetic field is applied. Flaws cause a non-uniform distribution of flux which may be observed on an oscilloscope connected in the detector circuit.

A recent report from the National Bureau of Standards describes a method of measurement of the value of the ampere. The device used is the current balance which relates the force due to current flow to a known mass. The results of these measurements show that the absolute ampere is larger by 150 parts in a million than the international unit.

The standard unit of electromotive force is the volt, and the standard is the Weston Normal cell. Apparently this standard has remained constant over a long period of time, although variations take place during the early part of a particular cell's life. It has been suggested that a cell containing heavy water (deuterium oxide) be used. This cell is more constant, though it will not last for as long periods of time.

The American Institute of Electrical Engineers published this year the American Standard Definitions of Electrical Terms. The assembling of data for this work was originally initiated in 1928, and it was approved by the American Standards Association in 1941 and by the Canadian Engineering Standards Association in 1942.

A recent study made with the purpose of finding better tests for electrical insulation resulted in the following conclusions: test codes should recognize the effect of dielectric absorption; industrial apparatus rated at less than 600 volts should be tested at room temperature; deteriorating effects of moisture and dirt are probably more important than those caused by temperature rise in normal usage.

## RESEARCH

Rubber is one of the best electrical insulators and is extensively used in wires and cables. The present shortage of this material, as well as of copper and steel, has imposed severe restrictions on the manufacture and use of all types of wiring. The War Production Board has set up special specifications as to what materials may be used in various kinds of wires

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and cables. These specifications are based upon research devoted to the study of the electrical properties of synthetic rubbers and plastics and of reclaimed rubber. In some cases impregnated paper and fabrics have been found suitable substitutes for rubber although generally the substitutes are not equivalent to the original material. At least one manufacturer announced a cable using no rubber.

Research in the properties of certain magnetic alloys resulted in an interesting discovery. If a piece of stainless steel containing proper amounts of chromium, nickel, and iron is heat treated in a definite manner and then placed under a magnet, it is not immediately attracted. After about a minute and a half it will jump to the magnet. The effect is apparently caused by delays in the rearrangement of the particles in the presence of the magnetic field. When

a sufficient number of particles have rearranged themselves, the steel is attracted to the magnet.

The General Electric Research Laboratory is constructing a large induction electron accelerator, also known as the Betatron. This device is similar to a smaller unit originally designed by Dr. Kerst of the University of Illinois, which is capable of producing 20,000,000 electron volts. Energies of 100,000,000 volts will be produced by the new equipment. This energy is imparted to electrons which travel in circular paths in an alternating magnetic field. This is in contrast to the cyclotron, which uses heavier particles (positive ions) and a constant magnetic field. Although the possibilities for research are not known, it is hoped the device will prove useful in the field of industrial radiography as well as in the medical field of therapy.

## RADIO

BY CHARLES B. JOLLIFFE

RCA MANUFACTURING COMPANY, INC.

### RADIO INDUSTRY IN WAR

During 1942, radio in practically all of its branches became a war industry and stripped itself for this war work. Most of the activities and thought of the various branches of the industry were devoted to war needs and aims. This is true of manufacturers of radio equipment and of companies engaged in communications and in broadcasting. The engineering and research divisions of the industry were given over to the development of new radio implements of war and to the perfection and manufacture of instruments useful in the successful conduct of the war.

The American Standards Association, through its war committees on Radio has undertaken the problem of assisting the industry in the standardization of components, thus eliminating several bottlenecks. A new committee known as "A.S.A. War Com-

mittee on Replacement Parts for Civilian Radio" has been established.

### FEDERAL UTILIZATION AND RESEARCH

The activities and responsibility of the Federal Communications Commission have been joined with related work of the Army, Navy, and other governmental services in the Board of War Communications. The emergency power of the President under Section 606 of the Communications Act of 1934 have been delegated to the Board of War Communications.

The Office of War Information and the Committee for Inter-American Affairs are utilizing both domestic and international broadcasting in the furtherance of the aims and objects of the United Nations, and of disseminating information concerning the war.

In so far as research is concerned,

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the Office of Scientific Research and Development, through the National Defense Research Committee, is actively pushing research and development work in all radio fields. These investigations are planned with definite purposes and with specific utility in mind, and already have resulted in many developments of great usefulness.

### HOME RECEIVERS

Production of broadcast receivers for the home was greatly reduced early in the year, and by mid-summer completely stopped. The production facilities were turned to the filling of war needs and devoted to the manufacture of radio and allied equipment for the armed services.

Radio production was one of the early lines to feel the scarcity of aluminum, nickel, copper, mica, rubber, and similar items. Before production was stopped, the amount of such scarce items in radio receivers was considerably reduced. For instance, iron instead of aluminum was used in many cases for condenser plates, and first plastics and later wood used for cabinets for the small receivers.

Self-contained as well as separate loop antennas increased in use largely because of the added convenience. Permeability tuning instead of variable condensers had wide acceptance. During the year, an increased number of receivers and adapters for FM reception were manufactured in a variety of price ranges. "Three-way" portables became popular as these could be used either with self-contained batteries or on alternating or direct current supply.

The sale of the very small or personal receivers continued at a high rate. Due to the shortage of material for permanent magnets, loudspeakers using such magnets were replaced wherever possible by electromagnetic loudspeakers. In the case of portables, where this was not feasible, the size of the permanent magnets was greatly reduced; also, to conserve space in small portable sets, elliptical

cone loudspeakers came into wide use.

### PHONOGRAPH COMBINATIONS AND RECORDS

Records continued to be popular, and this was reflected in the sale of combination sets. Sales of portable phonographs and combinations increased as did the use of crystal pickups or light-weight tone arms. This made possible the so-called permanent needles which play several thousand records before replacement of the needle is necessary. New record changers were introduced including types which permit the automatic playing of both sides of a record before the next record is moved into position.

Early in the year the supply of shellac was severely restricted, and phonograph record manufacturers began to buy old records as well as to use other materials. Toward the end of the year, the use of new shellac was stopped and record manufacturers were forced to make drastic changes in their production arrangements.

### RECEIVER SALES

The sale of receivers during the first six months of the year are given below in percentages:

Types	Units %	Value %
Table models.....	39.6	22.8
Console.....	6.7	11.4
Portable.....	13.5	9.
Auto.....	7.5	5.3
Farm Battery.....	6.3	3.8
Radio-Phono combinations	18.4	41.9

During the first six months, almost 4,000,000 receivers were sold. The sales after this period were comparatively small in so far as the manufacturers were concerned; however, many if not most types of receivers continued to be available from dealer and distributor warehouse stocks.

### DOMESTIC BROADCASTING

Domestic broadcasting during the year increased greatly in importance.



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News broadcasts became the most exciting feature of radio programs. The popularity curve of regular news summaries as well as of many commentators was sharply upward. Broadcasting has proved itself a real war-time necessity and is being utilized increasingly by the Government for the dissemination of news, the building of morale, both civilian and military, and the sale of war bonds. The industry was rated by the Government as a necessary one, and much effort given to insuring that the broadcasting stations could obtain sufficient replacement parts and tubes to maintain service. The quick dissemination of the news of Pearl Harbor, of various naval and air battles in the Pacific, and the invasion of Africa showed the power and possibilities in the American broadcasting system.

The Board of War Communications and the Federal Communications Commission endeavored in many ways to ease the difficulties of the broadcasters brought about by the drain of trained personnel, the scarcity of tubes, and other war emergencies. Freeze-orders stopped the construction of new stations except where equipment was already provided or where certain additions were necessary in order to carry out the Government program. The FFC relaxed its rules to permit a reduced time of operation for stations under certain conditions and ordered a slight reduction in the power output of the transmitters.

Broadcast stations in the various Army areas during 1942, were organized to provide that their operation should fit in with Army and defense requirements. Arrangements were made for key stations and for various forms of air raid signals, such as special monitoring, alert receivers, and other systems helpful in the coordination of all operations. Key stations are selected stations having continuous and direct contact with Army Command headquarters and which, in turn, are continuously monitored by all other stations in a given district. In this manner, orders from

headquarters can be passed on to all radio stations.

On Jan. 1, 1942, the Blue Network was organized as a separate company—a subsidiary of RCA—and thus became the fourth organization providing national network service.

By the end of November, there were 45 FM broadcasting stations in operation, and approximately 250,000 FM receivers in the hands of the public. FM, like standard broadcasting, was largely frozen for the duration, and the determination of its position in the American broadcasting picture postponed to a later time.

The broadcasting of transcriptions increased as did the use of standard phonograph records. The American Federation of Musicians notified manufacturers of transcriptions and phonograph records that "From and after August 1, 1942, the members of the AFM will not play or contract for recordings, transcriptions or any form of mechanical reproductions of music." This prohibition has not been lifted.

Prior to the war, most transcription records were made with a plastic coated on aluminum. Due to the shortage of aluminum, many substitutes were tried, and glass appeared to be one of the best alternatives.

### INTERNATIONAL BROADCASTING

As in the domestic field, so also in the international field, broadcasting during the year grew rapidly in importance. All of the organizations engaged in this work increased their facilities. Full scale operation of all but the technical phases of international short wave broadcasting stations was begun on Nov. 1, 1942, under arrangements whereby the licensees sell all of the time to and produce such programs for the Federal Government as the Coordinator of Inter-American Affairs and the Office of War Information designate. The programs are for broadcast in various languages for transmission to practically all countries. Additional transmitters are being and will be installed, and it is expected that by the

## RADIO

middle of 1943 about 36 high-powered transmitters will be available for this work.

Transmitter antennas have been improved in directivity and efficiency so that it is possible to "beam" programs to any desired countries more satisfactorily. In addition, some of the networks have arranged for the pickup and re-broadcasting of their programs in South and Central America, thus tying ever more closely the nations comprising the Western Hemisphere.

The effectiveness of the international stations in this country has always been subject to certain monitoring or checking in many of the countries towards which the broadcasting has been directed. This work has been increased, and regular provision made for the determination of the coverage of these stations. In addition, the FCC and some of the networks have in this country actively monitored the foreign stations so that at all times there is a full knowledge of the material broadcast by our Allies and by the Axis nations.

This very important and valuable work has been carried on and increased with little publicity but with increasing effectiveness. At the time of the invasion of Africa, the first American forces took with them high powered broadcasting equipment which was quickly installed, and began the transmission of American programs and news to the people of North Africa and to Europe. The United States is making every effort to get its message across.

### TELEVISION

Television, like other broadcasting services, has not grown during the war emergency. Three stations in New York are in operation during certain hours of one or more days a week. The Federal Communications Commission has permitted television stations to broadcast as little as four hours per week of program material and, if necessary, to restrict this to one day. These programs have, to a large extent, tied in with the war effort, and have been utilized for the

training of Air Raid Wardens and First Aid groups and for other necessary war activities. By means of relays, the programs of some stations in New York have been made available to stations in Philadelphia and Schenectady.

In so far as actual broadcasting is concerned, there has been little change in the technical phases of television. In the laboratory, war work has shown the possibilities of improvements, such as better synchronization and greater stability which will be available after the war when television is again more active.

### SERVICING

Never before has the proper maintenance and servicing of home receivers and other radio apparatus been so important. The restrictions on new equipment and the scarcity of materials have shown the need for well-trained men interested in servicing rather than in sales, and have shown his need for proper servicing equipment. Recent arrangements for replacement parts and service materials were necessary and should be of real assistance in this work.

### PUBLIC ADDRESS EQUIPMENT

The number of army camps, training schools, and war industries have resulted in a large increase in the use of public address equipment. Large installations have been made in many factories, and a wholly new idea of industrial broadcasting has come about. Morale, production, and working conditions have been improved by the programs that have been carefully worked out for the different types of service.

### POLICE AND AVIATION

War has increased the use of police and aviation equipment in both these specific fields and in other fields for which the equipment is adapted. During the year, the use of radio by state and local police has increased rapidly, and although there is today comparatively little private aviation, the total use of aviation radio has of course progressed enormously be-

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cause of the needs of the armed services.

Police type of equipment has found many other uses. It is used not only in special highway patrol, such as on the Pennsylvania Turnpike, but also in many extensive war plants, some of which are scattered over considerable areas. New and more efficient equipment utilizing amplitude or frequency modulation has been made available for these services, and new light-weight aviation equipment was developed for private and other small planes.

### TUBE DEVELOPMENT

In the receiving tube field, production for civilian use has been greatly curtailed, and the number of types manufactured has been reduced. The Army and Navy have standardized on a comparatively small number of receiving tube types for military and naval equipment, thus simplifying production and warehousing for these services.

In the transmitting tube field, many new tubes have been developed for the Army and Navy, and the production of transmitting tubes increased many fold. Most types of transmitting tubes are not available for civilian use except for necessary services.

### PUBLIC SERVICE COMMUNICATIONS

Early in the year, most of the ma-

rine coastal stations were shut down, some are being operated by the Navy and the Coast Guard, and a few are available for restricted one-way commercial service. The extended shipping program called for a tremendous amount of radio equipment and new standardized and simplified apparatus was made available for this purpose. Radio direction finding has become practically universal and is now conventional equipment for all ships.

All commercial domestic radio telegraph circuits were closed by the Government on June 30th, 1942 and all messages to be sent over the international circuits are subject to government censorship. The international facsimile or radiophoto services have been of increasing value and interest in bringing to the American public pictures of the war overseas, and conversely of carrying pictures to various points abroad.

### AMATEUR RADIO

The use of amateur transmitters was stopped by the FCC on December 8, 1941. However, some stations operating above 100 megacycles have been incorporated into the War Emergency Radio Service which is supervised by the Office of Civilian Defense, and operates under FCC rules. Such transmitters are licensed only to state governments or some of their subdivisions.

## TECHNICAL PROGRESS IN SOUND EQUIPMENT

By M. C. BATSEL

CHIEF ENGINEER, RCA MANUFACTURING COMPANY

### INDUSTRIAL SOUND PRODUCTS

During 1942 the use of sound equipment increased tremendously and this was most apparent in the larger installations which were made chiefly in plants engaged in war production. These installations are often referred to as Sound Broadcasting Systems because of their size and the complete facilities provided. They usually include such facilities as paging, music

distribution, announcements, air raid alarm signals, etc. These installations were made in a great variety of places such as railway stations, airports, railway switching yards, and in many different types of defense industries.

Because of the great demand for this type of equipment every effort was made to use standard designs of microphones, amplifiers, loudspeakers,

## TECHNICAL PROGRESS IN SOUND EQUIPMENT

etc., in order to take advantage of existing stocks of these items and to save time in manufacturing additional quantities; however, two new items of particular note were made available during this period and are worthy of mention. Electronic tone generators simulating whistle or bell tones were made available for air raid warning purposes and these signals are used in connection with sound broadcasting systems. An anti-feedback microphone capable of being used satisfactorily under many conditions where other microphones would not operate has proved very helpful in many installations.

### MUSIC IN INDUSTRY

These sound broadcasting systems have been used to reproduce carefully chosen musical programs in many industrial plants with the results that the workers report lessened fatigue and the management indicates increases in output from 5 per cent to as much as 20 per cent, depending on the type of work, choice of musical selections, etc. This method of increasing production is particularly valuable at this time because it does not involve additional workers or equipment. A careful study is being made in order to derive the maximum benefit from it.

### PLANT PROTECTION DEVICES

As a result of the war a demand arose for devices useful in protecting manufacturing plants, airports, reservoirs, etc. from intruders, and several types of units were marketed for this purpose. Their principle of operation usually was based on the interception of a light beam, vibration of a fence, or change in capacity of a tuned circuit. This equipment improved the protection of important locations without adding a large number of men to the guards already in use.

### AIR RAID ALARMS

Because of the war a number of air raid alarm devices have been developed. Some of these units are of the electronic type while others are operated by compressed air, steam,

or by mechanical means. One of these units, a siren powered by a gasoline engine, delivered a sound pressure of 130 decibels at a distance of 100 feet.

### SOUND MOTION PICTURE REPRODUCING EQUIPMENT

As with film recording equipment the advances in sound motion picture reproducing equipment were relatively minor in nature due to the war. Perhaps the greatest progress was made in the 16 millimeter field, as a result of the great demand for reproducing equipment by our Armed Forces for training film purposes and for entertainment at the many troop camps. One trend noted with 16 millimeter equipment is its use with larger audiences. Arc lamps have been provided for several projectors in order to give adequate screen illumination for large size screens.

### SOUND MOTION PICTURE RECORDING EQUIPMENT

As a result of the war, advances in sound motion picture recording equipment were reduced to a minimum and consisted principally in minor improvements in existing design equipment. During this period, however, there was one important development involving the application of sound motion picture recording equipment. This was made by several branches of our Armed Forces and consisted of a tremendous increase in the production of training films. These films are used to train new personnel and to provide older personnel with information on the use of new equipment, analyses of enemy tactics, etc. Results so far reported by those in charge of this work indicate that adequate training is accomplished in about 40 per cent of the time normally required by previously used methods.

A number of highly portable 35 millimeter equipments designed to record the sound on the picture film in cameras have been supplied to our Armed Forces for use at the battle front.



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### SPEECH INPUT

Speech Input Equipment has gone to war. Barred against sale to commercial broadcast stations by WPB rulings in order to conserve on critical material, the speech input business looked doomed for the duration. However, realizing the important part radio communication has to perform in modern warfare, the Government is making many installations of the permanent type. (In comparison to the portable radio equipment used in tanks, airplanes, etc.) Although these installations are not as elaborate as are found in modern broadcasting stations, they all require speech input equipment. Also, many equip-

ments are being supplied through lend-lease arrangements to our allies who are unable through lack of manpower and facilities to manufacture their own.

The progress that has been made on speech input equipment during the past several years is reflected in the fact that the Government finds present designs suitable and satisfactory for their rigid requirements. It has not been necessary to design new equipment for speech input applications as it has in other lines of communication. This speaks well for the high performance standards of both the broadcast industry and for the manufacturers of speech input equipment.

## NAVAL ARCHITECTURE AND MARINE ENGINEERING

By JAMES L. BATES

UNITED STATES MARITIME COMMISSION

### GENERAL

In previous years it has been customary to discuss technical development in naval architecture and marine engineering under various headings. Particulars of the designs of various ships were furnished and comment made on their principal characteristics and the background of their design. Discussions of trends which characterized the year have also been included.

The year 1942 was one of preparation for active participation in the war. It witnessed the gradual systematizing of efforts covering the furnishing of material and equipment, construction of naval and cargo ship tonnage, expansion of manufacturing facilities, and training of personnel—all with the end in view of successfully combating the Axis powers.

Under these circumstances many of the subjects heretofore of interest have not been so during 1942. Designs have been frozen wherever possible so that production might attain its maximum, problems of transport, substitution of new materials for

those which have previously constituted practice, tooling and equipping of existing manufacturing establishments, the flow of work and the training of personnel—all making for efficiency in mass production—have occupied attention almost to the elimination of interest in more normal procedures.

All the energies of those responsible for the merchant ship program have been concentrated upon turning out the maximum amount of cargo ship tonnage. While there have been variations in type and size of the individual ship, yet the object has been the same in all cases—to secure the greatest possible carrying capacity.

Many of the developments which have taken place were intimately associated with the construction of combatant units or have had to do with conversion for naval purposes so that it is inadvisable to examine them here. Accordingly, the present discussion will be confined chiefly to rather general statements concerning the objects sought and the means utilized during 1942 in attaining these objects.

# NAVAL ARCHITECTURE AND MARINE ENGINEERING

## SHIPYARD FACILITIES

In the older yards, which have been engaged in shipbuilding for many years, the layout of building ways and shops was originally done with riveting in mind. These yards have been generally at a disadvantage due to limited space between building ways and limited space between the head of ways and the plate shops.

In new yards built and organized within the past two or three years, broader spacing of the ways and much greater space between way's head and shops have been secured. Further, in many cases, these yards have installed cranes of large capacity so that it becomes possible to erect the superstructure, deck houses, and other large assemblies more or less completely in the space between way head and shops and then to transport these assemblies in relatively large portions to the building ways where they are to be incorporated in the vessel as complete units.

Although it would perhaps be possible to utilize riveting, the practices as described have come into use simultaneously with and partially as a result of the present widespread use of welding. Therefore, from the standpoint of practical building today, these special procedures and the yard facilities necessary thereto are associated with welding.

## SHIPYARD WELDING PRACTICE

For many years it was the practice to build steel vessels piece by piece, using riveting and fitting the item in place by trial. However, for a period of years, this country has shown an increasing tendency toward careful structural layout in the drafting room, the yard labor building in strict accordance with these plans. This practice has permitted the shipbuilders to introduce the mass production methods of the automobile builder and has secured amazing results in the reduction of building time without unduly increasing the cost of the ship.

One of the practices which has developed along with mass production and which, at the same time, has as-

sisted in making that mass production possible, is welding. Welding in itself has not materially altered during recent months but the development of yard practices connected with welding has been continuous.

In order to facilitate welding operations from the standpoints of time and expense involved, as well as to secure a high quality in the weld itself, the effort to do as much welding as practicable in the "down" position has become more general. Some small ships have actually been built in the upside-down position and after complete assembly and fabrication have been bodily turned over into their intended position. In other instances, pits have been provided with overhead arrangements for handling the weldment so as to permit the "down" operation.

It was originally believed, and careful checks bore out the belief, that the general adoption of welding would result in a material decrease in the weight of a ship's structural steel. While this has been shown to be basically true, continued construction has discovered that it is relatively difficult in a yard where large vessels are being built to secure good welds in light plating. As a result there has been a tendency to increase scantlings to a point where proper welding is much easier of accomplishment.

## INFLUENCE OF WELDING ON MASS PRODUCTION

The general adoption of welding has influenced design and drafting room practices as well as shipyard layouts. This has been particularly evident in those yards which have been developed as the result of the present emergency, and have been compelled to operate with a technical force of minimum size and with labor innocent of previous shipyard training and experience. In such yards it has been necessary to furnish unusually complete detailed working drawings. In many cases these have been supplemented by isometric sketches and, even in some cases, drawings in perspective. It has resulted that the planning and design organization re-

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sponsible for the day's work covers these fields much more thoroughly than has been the practice heretofore; while the workman in the yard becomes less and less of a reasoning agent and more and more confined to a few operations or a few movements, all in accordance with a carefully prepared directive.

Mass production, entirely aside from welding, has been found inflexible, when carried to its extreme; that is, it is almost impossible to introduce an important change in hull structure in a yard which is working at high pressure in turning out a series of carefully standardized ships without seriously reducing its output. In many structural preassemblies, such items as piping, valves, electrical leads, ventilation ducts, etc. are installed in the prefabrication stage so that when they are brought to the building ways there only remains the uniting of a new part to parts already in position. Should there be introduced into the construction an additional bulkhead or should the superstructure be changed in any important respect, the effect on the completed assembly is so far-reaching as to set back the whole work flow in the yard by an amount which, in some cases, may be measured in months rather than in weeks or days.

The study and development of welding have furnished a considerable amount of experience as to the effect of locked-up stresses and the reason for their existence. While the number of failures resulting from this cause are not many when compared with the enormous amount of work done, they do still occur. In many cases it has been difficult to discover the reasons for the failure.

There is still evidence of distortion in various ship structures. While the greatest difficulty has been experienced with light or superstructure plating, there has also been difficulty with stiffeners and the plating of important decks. This has resulted, in some cases, in a reversion to riveting certain portions of the ship, although using welding elsewhere.

The use of welding in our shipyards

has modified methods and degrees of supervision and inspection. Incomplete or faulty welding is more difficult to discover than similar faults in riveting. As a partial offset to this, routine tank testing in a welded ship is less difficult than where riveting has been used.

It has been found that visual inspection by a trained and experienced inspector will discover such items as improper penetration, undercutting, unsuitable current, too great a speed, and other difficulties with much more certainty than was at one time believed possible.

### MATERIAL SHORTAGE AND SUBSTITUTES

The supply of materials in adequate amounts for the construction and outfitting of enormous numbers of vessels was, during the year, a source of much concern and actual difficulty. The problem of adequate supplies of steel and copper was perhaps the most serious. In spite of increasing facilities for gear cutting, manufacture of machine tools, manufacture of turbines, etc., there was and still exists a shortage in the supply of these articles. The same is also to be said of steel castings.

The conditions noted have led to concentrated study of the substitutes which might be made available. This has resulted in the adoption of many materials heretofore never considered for the purposes to which they have now been put. The following is a partial list of some of the substitutes which have already been accepted and are now in general use on ships under construction for the Government: Wood, steel, plastics, cast, wrought or malleable iron (such as may be most suitable) have been adopted for instruments, gauges, meters, voice tubes, hand wheels, door knobs, screen frames, airports, etc.; bodies of terminal and stuffing tubes as well as gland nuts, packing rings, etc. have been made of yellow brass; electric lighting fixtures, switches, receptacles, connection boxes, etc. have been made of malleable iron, plastics, etc.; fittings and parts normally made of

## NAVAL ARCHITECTURE AND MARINE ENGINEERING

solid brass or bronze because of wearing surfaces subject to corrosion and erosion, where practicable, have been made of iron or steel with brass or bronze wearing surfaces in the form of liners, sleeve rings, etc.

Metal furniture which had been generally adopted in order to minimize fire hazard has been eliminated and wood furniture accepted as a substitute.

It should be emphasized that while the substitutes referred to are acceptable under the present emergency and while some of them may permanently replace the materials heretofore used, many must be considered as substitutes only, whose uses for these purposes will doubtless be discontinued after the war.

### INCREASE IN WORKERS EMPLOYED

In expanding our shipbuilding facilities and in designing for standardization and mass production, only part of the problem of placing numbers of ships in service in a minimum time was solved. There remained the equally important problem of expanding the available force of shipyard workers as well as the number of men to handle the ships at sea.

When the present emergency developed, there were, all told, not more than about 60,000 people employed in the shipyards of the nation. Since that time, this figure has been increased to about 1,000,000.

There has been and still is the system of apprenticeship in operation in many shipyards. However, this is generally a long-term system of training and therefore has had to be supplemented by other methods in order to meet current demands.

### TRAINING FOR SHIPYARD WORK

In so far as shipyard labor is concerned, it has been necessary to develop from men previously unskilled a large number capable of following the mechanical trades.

In working out this problem, the several types of work involved were broken down through job analyses and courses of instruction for the

several crafts by corps of prospective instructors. The instructors themselves were generally selected on the basis of recommendations by yard departments.

In general, the systems adopted provided for daily lectures limited in time to each group of trainees. The remainder of the time was spent on actual productive work, this work being closely supervised by one of the instructors. Generally, textbooks were not used. The lectures were based on outlines or notes prepared by the instructor and carefully checked by his supervisors.

It was not intended and has never been claimed that the training thus given produced all-round mechanics. However, it produced men with specific skills capable of performing definite duties. Apparently this scheme worked very satisfactorily where the drafting room has had opportunity to lay down the principal features with meticulous care and prepare proper plans and specifications for fabrication.

Such training has been specifically applied to welding, the mold loft, ship fitting, tank testing, electrical layout, metal locker building, etc. In addition to the training of shipyard craftsmen, intensive courses in drafting were provided. These courses included special work with instruments as well as a study of the theoretical considerations underlying the design of ship, machinery, etc.

### TRAINING OF OFFICERS AND SEAMEN

Assuming a merchant fleet consisting of some 3,000 vessels, there would be required a complement of about 25,000 licensed deck and engineer officers and some 100,000 unlicensed seamen in the deck, engine, steward, and radio departments. It was early recognized by the War Shipping Administration that there was available to the Maritime Commission no such body of experienced seamen as indicated by the figures quoted. Accordingly, it became necessary to undertake the training of officers and unlicensed per-



## XIX. ENGINEERING AND CONSTRUCTION

sonnel on a scale not heretofore approached.

There are at present more than 3,000 cadets in training to become officers under the Federal system. This number was increased to more than 5,000 at the beginning of 1943. The course given extends over a period of 16 months. The first two months are utilized in preliminary training at base schools at various places on both coasts. There follow six to eight months on active merchant vessels. Finally there are another six to eight months in advanced courses at the U. S. Merchant Marine Academy, Kings Point, Great Neck, Long Island.

For the training of unlicensed seamen, the U. S. Merchant Service maintains four shore training stations located at Sheepshead Bay, N. Y.; Hoffman Island, N. Y.; St. Petersburg, Fla.; and Catalina Island, Calif. The following training ships are attached to these stations: *American Seaman*, *American Sailor*, *Empire State*, *Vema*, *Joseph Conrad*, *Tusitala*, *Alleghany*, *Berkshire*, *City of Chattanooga*, and *American Mariner*. Sixteen thousand trainees can be accommodated at one time on these training ships, so that potentially 64,000 men, less attrition, can be graduated each year.

### LOADING AND STOWAGE

Much information of value has become available through the loading and operation of our merchant ships under existing emergency conditions. The handling of large weights to and from cargo vessels originally intended for use with smaller weights has thoroughly tested booms, winches, and other handling gear.

The stowage of unusual cargoes in the holds and 'tween decks has sometimes over stressed structure. The stowage and securing in place of deck loads so as to avoid damage from the sea and yet to add as little as possible to top weight has brought problems of operation.

The maintenance of proper stability at all times during loading and unloading as well as throughout the voy-

age has taxed the wisdom and resources of men and officers often new to the particular ship.

### PROPELLING MACHINERY

The wisdom of those responsible for the acceptance of the steam reciprocating machinery for the Liberty type of ship has been amply vindicated. These ships, now being delivered in large numbers, could not have been completed on the present schedule if powered with machinery other than that used.

While the increase of facilities for gear cutting and turbine manufacture is now becoming a factor, the demand for gears and turbines has increased almost as rapidly as have the facilities. In several instances, the propelling power contemplated in the original design was increased before the ship or ships were completed in order to increase speed.

### SHIPBUILDING ACCOMPLISHMENT

In so far as merchant shipbuilding is concerned, a brief summary of accomplishment follows: Shipyards occupied solely in construction of the standardized type known as Liberty ships have brought the average time from keel laying to delivery down to less than 60 days per ship, whereas the original contract requirement for this type of vessel was 105 days; by the end of 1942 the goal of 8,000,000 tons of new shipping was met.

### STEEL CONSTRUCTION

The principal effort of the U. S. Maritime Commission in so far as the production of cargo-carrying tonnage is concerned has been the construction and delivery of the Liberty type ships. About 5,915,000 tons of this type were put in service during the year. In addition to these ships about 540,000 tons of the long range C1, C2 and C3 types were delivered. About 1,027,000 tons of large fast tankers were delivered. In addition to the long range vessels of the "C" type and the many large fast tankers, there also was put under construction a number

of large vessels. About sixteen steel harbor tugs were delivered.

There are also under construction a number of small coastal cargo vessels and tankers as well as a group of large steel sea-going tugs.

## CONSTRUCTION IN REINFORCED CONCRETE

During 1942, the concrete ship and barge program was considerably expanded by the Maritime Commission. Whereas it had originally been the intention to build a total of 15 barges in three separate yards beginning with a contract for five barges in each case, the program has been expanded to the point where five yards are involved and contracts for 65 non-propelled oil-carrying barges, 26 non-propelled dry cargo barges, and 24 self-propelled dry cargo barges have been placed, total of 115 reinforced concrete vessels. All these ships have approximately the same dimensions, although their cargo-carrying capacity varies somewhat.

As might have been expected, the year's work in reinforced concrete vessels was characterized by a considerable program of tests which involved strength of beams, resistance of panels to impact, ability to resist the penetration of oil under a head, not to mention the actual compressive stress of concrete cylinders representative of various mixes. The actual construction of these barges has developed some interesting solutions to the problem of placing reinforcing steel and so arranging it as to facilitate pouring.

Of the five yards in which this concrete work is being done, one yard is building on ways of the normal type and using end launching. Another yard is following the Great Lakes practice of side launching. The three remaining yards are building in basins and floating the ships out when the advancement of the work so permits. Several barges have already been placed in the water and during the first quarter of 1943 a number will go into actual service.

## WOOD CONSTRUCTION

An extensive wood shipbuilding program to help carry the increasing load of sea-borne traffic was initiated by the U. S. Maritime Commission. Barges and tugs of various types and services were built or are now under construction. The wood program was adopted to conserve steel for large ocean-going vessels and to utilize labor and facilities available for such construction.

Many manufacturers without previous shipbuilding experience were commissioned to produce barges of value in the war effort. Some of these barges will be of the "knocked-down" or unassembled type and are being fabricated in plants all over the country.

The Maritime Commission delivered a large number of prefabricated, unassembled, deck-loading barges and contracted for a number of such carriers, designed, however, to take cargo below deck in holds. Other larger types to be towed by powerful tugs are intended to carry essential goods and supplies along the coasts of the United States, replacing in part self-propelled coastal merchant ships diverted to service elsewhere. Eight shipyards are building 33 barges to haul coal up the Atlantic Coast for industrial and domestic use in the northeast. These barges are 180' long, with a beam of 33', depth of 18', and a carrying capacity of 750 tons on 11'-0" draft. Fifteen are being built at Atlantic Coast yards, ten on the Pacific, and eight on the Great Lakes. These barges are ship-shape and intended to carry cargo below decks. The entire fleet is expected to be completed by midsummer of 1943.

A larger type barge, 274' long, with a 45' beam, depth of 26'-6" and a load capacity of 3,750 tons, is also being built. Three yards on the West Coast are at work on 20 of these vessels. They are expected to be in service by the middle of 1943. They are intended for haulage of general cargo along the coasts.

Wooden tugs are being built to tow both the 180' and 274' barges. These are powerful sea-going vessels, up-

## XIX. ENGINEERING AND CONSTRUCTION

wards of 150 feet in length. They will be propelled by single screw steam reciprocating engines and will burn coal. Contracts were recently awarded for 22 to be completed about the time the big barges are delivered into service.

The placing of timber in the critical material category affected the wood shipbuilding program to a considerable extent. All wood supplies are now controlled by the U. S. Government, and timber allocations are made to contractors holding Commission contracts.

### TRENDS

The trend toward higher speed continued. It was evidenced by various agencies connected with the war effort. It was also shown by inquiries for post-war tonnage.

There was a distinct tendency to maintain large displacements. Undoubtedly, this tendency would have

been more pronounced had broader choice in power and type of propelling machinery been possible.

Continued emphasis was placed on efficient cargo handling. This resulted both from the needs of the emergency and from the demands anticipated after the war. New handling gear was developed in some instances. Renewed attention was given to terminal facilities and to containers.

The value of adequate subdivision of ships coupled with the requisite stability has been emphasized. This does not imply the existence of a demand for more complete compartmentation in the present day cargo vessel. However, experience afforded definite argument for the standards striven for in U. S. Maritime Commission vessels.

The cost of construction rose through the year. However, the increase was, at least in merchant ship construction, at a moderate rate.

## PERIODICAL PUBLICATIONS

### *Civil Engineering*

29 West 39th Street, New York City.

### *Construction Digest*

215 East New York Street, Indianapolis, Ind.

### *Construction Methods and Equipment*

330 West 42nd Street, New York City.

### *Contractors and Engineers Monthly*

470 Fourth Ave., New York City.

### *Diesel Power*

192 Lexington Ave., New York City.

### *Electrical Communication*

67 Broad Street, New York City.

### *Electrical Engineering*

33 West 39th Street, New York City.

### *Electrical World*

330 West 42nd Street, New York City.

### *Electronics*

330 West 42nd Street, New York City.

### *Engineering and Mining Journal*

330 West 42nd Street, New York City.

### *Engineering News-Record*

330 West 42nd Street, New York City.

### *General Electric Review*

General Electric Company, Schenectady, N. Y.

### *Journal of Engineering Education*

University of Pittsburgh, Pittsburgh, Pa.

### *Mechanical Engineering*

29 West 39th Street, New York City.

### *Mining and Metallurgy*

29 W. 39th Street, New York City.

### *Motor*

572 Madison Ave., New York City.

### *National Engineer*

176 West Adams Street, Chicago.

### *Popular Mechanics Magazine*

200 East Ontario Street, Chicago.

### *Popular Science Monthly*

353 Fourth Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

*Power Plant Engineering*  
53 West Jackson Boulevard, Chicago.

*Professional Engineer*  
8 South Michigan Ave., Chicago.

*Radio Communications*  
19 East 47th Street, New York City.

*Radio Guide*  
551 Fifth Ave., New York City.

*Radio-Television Journal and Talking Machine World*  
1270 Sixth Ave., New York City.

*Radio World*  
145 West 45th Street, New York City.

*Railway Mechanical Engineer*  
30 Church Street, New York City.

*S.A.E. (Journal of the Society of Automotive Engineers)*  
29 West 39th Street, New York City.

*Sibley Journal of Engineering*  
Cornell University, Ithaca, N. Y.

*Tech Engineering News*  
Massachusetts Institute of Technology, Cambridge, Mass.

*Technology Review*  
Massachusetts Institute of Technology, Cambridge, Mass.

*Universal Engineer*  
150 Nassau Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ALLIED BUILDING METAL INDUSTRIES,  
101 Park Ave., New York City.

AMERICAN ASSOCIATION OF ENGINEERS,  
8 S. Michigan Ave., Chicago, Ill.

AMERICAN CERAMIC SOCIETY, 2525 N.  
High St., Columbus, Ohio.

AMERICAN CONCRETE INSTITUTE, 408  
New Center Bldg., Detroit, Mich.

AMERICAN CONSTRUCTION COUNCIL, 28  
W. 44th St., New York City.

AMERICAN FOUNDRYMEN'S ASSN., 222  
W. Adams St., Chicago, Ill.

AMERICAN INSTITUTE OF CHEMICAL  
ENGINEERS, 50 E. 41st St., New  
York City.

AMERICAN INSTITUTE OF CONSULTING  
ENGINEERS, 75 West St., New York  
City.

AMERICAN INSTITUTE OF ELECTRICAL  
ENGINEERS, 33 West 39th Street,  
New York City.

AMERICAN INSTITUTE OF MINING AND  
METALLURGICAL ENGINEERS, 29 W.  
39th St., New York City.

AMERICAN IRON AND STEEL INSTITUTE,  
350 Fifth Ave., New York City.

AMERICAN PETROLEUM INSTITUTE, 50  
W. 50th St., New York City.

AMERICAN RADIO RELAY LEAGUE, 38  
La Salle Road, West Hartford,  
Conn.

AMERICAN RAILWAY ENGINEERING  
ASSN., 59 E. Van Buren St., Chi-  
cago, Ill.

AMERICAN ROAD BUILDERS ASSN.,  
1319 F St., N.W., Washington,  
D. C.

AMERICAN SOCIETY OF CIVIL ENGI-  
NEERS, 33 W. 39th St., New York  
City.

AMERICAN SOCIETY OF HEATING AND  
VENTILATING ENGINEERS, 51 Madi-  
son Ave., New York City.

AMERICAN SOCIETY OF MECHANICAL  
ENGINEERS, 29 W. 39th St., New  
York City.

AMERICAN SOCIETY OF METALS, 7016  
Euclid Ave., Cleveland, Ohio.

AMERICAN SOCIETY OF MUNICIPAL EN-  
GINEERS, 4359 Lindell Bldg., St.  
Louis, Mo.

AMERICAN SOCIETY OF NAVAL ENGI-  
NEERS, Navy Department, Wash-  
ington, D. C.

AMERICAN SOCIETY OF REFRIGERATING  
ENGINEERS, 50 W. 40th St., New  
York City.

AMERICAN SOCIETY OF SAFETY ENGI-  
NEERS, 60 E. 42nd St., New York  
City.

AMERICAN SOCIETY FOR STEEL TREAT-  
ING, 7015 Euclid Ave., Cleveland,  
O.

AMERICAN SOCIETY FOR TESTING MA-  
TERIALS, 260 S. Broad St., Philadel-  
phia, Pa.

AMERICAN STANDARDS ASSN., 29 W.  
39th St., New York City.



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| <p>AMERICAN STATISTICAL ASSN., 1626 K St., N.W., Washington, D. C.</p> <p>AMERICAN WATER WORKS ASSN., 22 E. 40th St., New York City.</p> <p>AMERICAN WELDING SOCIETY, 29 West 39th Street, New York City.</p> <p>HIGHWAY RESEARCH BOARD OF THE NATIONAL RESEARCH COUNCIL, 2101 Constitution Ave., N.W., Washington, D. C.</p> <p>ILLUMINATING ENGINEERING SOCIETY, 51 Madison Ave., New York City.</p> <p>INSTITUTE OF THE AERONAUTICAL SCIENCES, INC., 30 Rockefeller Plaza, New York City.</p> <p>INSTITUTE OF RADIO ENGINEERS, INC., 330 W. 42nd St., New York City.</p> <p>NATIONAL AERONAUTIC ASSN., The Willard Hotel, Washington, D. C.</p> <p>NATIONAL BOARD OF FIRE UNDERWRITERS, 85 John St., New York City.</p> <p>NATIONAL FIRE PROTECTION ASSN., 60 Batterymarch St., Boston, Mass.</p> <p>NATIONAL RESEARCH COUNCIL, 2101 Constitution Ave., Washington, D. C.</p> | <p>NATIONAL SLATE ASSN., 644 Drexel Bldg., Philadelphia, Pa.</p> <p>NEW YORK ELECTRICAL SOCIETY, 29 W. 39th St., New York City.</p> <p>RADIO CLUB OF AMERICA, 11 W. 42nd St., New York City.</p> <p>RADIO MANUFACTURERS ASSOCIATION, 1317 F St., N.W., Washington, D. C.</p> <p>SOCIETY OF AUTOMOTIVE ENGINEERS, INC., 29 W. 39th St., New York City.</p> <p>SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS, 29 W. 39th St., New York City.</p> <p>SOCIETY FOR PROMOTION OF ENGINEERING EDUCATION, Univ. of Pittsburgh, Pittsburgh, Pa.</p> <p>THE ENGINEERING FOUNDATION, 29 W. 39th St., New York City.</p> <p>THE SOCIETY OF MOTION PICTURE ENGINEERS INC., Hotel Pennsylvania, New York City.</p> <p>WESTERN SOCIETY OF ENGINEERS, 205 Wacker Drive, Chicago, Ill.</p> |
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## DIVISION XX

### GEOPHYSICAL SCIENCES

#### EARTHQUAKES AND VOLCANOES

By N. H. HECK

UNITED STATES COAST AND GEODETIC SURVEY

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Throughout the year seismologists have made an increasing contribution to the war effort by giving information and advice and many have transferred their useful skill to other fields. The accomplishment must be considered from this viewpoint.

##### EARTHQUAKES IN FOREIGN AREAS

Earthquake location has been more difficult with fewer seismograph stations making reports. Many earthquake areas are in active or potential war zones, and hence information has been limited or missing. It is, however, certain that no major earthquake has occurred and not more than 13 with deaths, injuries, or serious property loss. The more important of these occurred in Panama and Costa Rica, Dec. 5 (1941); Formosa, Dec. 17; Bulgaria, April 6; Ecuador, May 13 (200 killed); southern Colombia, May 23; North Island, New Zealand, June 24 and Aug. 2; Guatemala, Aug. 6; southern Peru (with moderate tidal wave), Aug. 24; Turkey, Nov. 15. Forty-two earthquakes in all were widely recorded, many of which were submarine. Most of them were in active earthquake regions, but one in the Indian Ocean on Nov. 10 was in a comparatively nonseismic area.

##### EARTHQUAKES IN THE UNITED STATES

There were few earthquakes of importance in any part of the American

regions. Those most worthy of mention were that of March 11 which caused slight damage in the Black Hills of South Dakota and that of Oct. 23 which caused some damage to railroad structures in California near the Mexican border west of the Imperial Valley.

##### SEISMOLOGICAL STATIONS

The United States contributed to accurate earthquake location by operation of 57 seismograph stations. Two new stations were established, one in northern California and one in central Washington. Modern instruments were installed at one station each in Alabama and Arizona and at two in Nevada. Some of these stations may have stopped operation through loss of personnel or difficulties with supplies but no cases are definitely known. The stations in the United States are operated by: the Coast and Geodetic Survey, either directly or in cooperation with other government bureaus and various institutions; educational and scientific institutions; and individuals. Four organizations coordinate the work of a number of stations with headquarters as listed; Northeastern Seismological Association, Weston, Mass.; Jesuit Seismological Association, St. Louis; southern California, Pasadena; central California, Berkeley. Alaska has two seismograph stations; Hawaii, one (in addition to a number for recording volcanic earthquakes);

Puerto Rico and Panama Canal Zone, one each. In South America, scientific institutions of the United States operate seismographs. The Carnegie Institution of Washington in Peru and the Smithsonian Institution in northern Chile. Cooperative arrangements have made possible the continued operation of two stations in Greenland and one in Bermuda.

#### **EARTHQUAKE LOCATION**

Through cooperation of some stations fairly good immediate locations of earthquakes have been made, in some cases with military importance. Cooperation of Coast and Geodetic Survey, Jesuit Seismological Association, and Science Service has resulted in immediately locating an average of  $3\frac{1}{2}$  earthquakes per month. There has also been assistance from Canada, Mexico, Guatemala, El Salvador, Australia, and New Zealand.

#### **OBSERVATIONS IN CENTRAL REGIONS OF DESTRUCTIVE EARTHQUAKES**

During the year 30 records were obtained by the Coast and Geodetic Survey from five destructive earthquakes, the strongest being that of Oct. 23 in Southern California. In order that a major earthquake may be recorded when it comes, the instruments which record such shocks have been made less sensitive. The records will accordingly be fewer but more valuable. There have continued in operation 51 strong motion instruments in California, four each in Nevada and Montana, and one each in Utah and the Panama Canal Zone.

A few vibration studies were made of buildings under construction. The vibration instruments record a range of periods which other scientists are not dealing with, and the filling of this gap has been of military value. Some progress has been made in the application of actual earth motions to the design of structures.

The location of an earthquake by instrumental means is not the whole story. Information from those experiencing the earthquake is necessary to learn effects on the surface of

the ground, on water supplies, on buildings and other structures. Through cooperative arrangements the agencies that have been mentioned and many others furnish the needed information, chiefly through the use of printed forms which ease the task of the informant. In regions of frequent earthquakes, the forms are provided in advance. In the western states a collaborator attends to the collection. When this information has been analyzed by the Coast and Geodetic Survey and cooperating agencies, it is made available to military and other users.

#### **NEW DEVELOPMENTS**

Work on new developments has been intentionally postponed. Any loss will undoubtedly be compensated for by war developments useful to seismology. Some work has been done in drawing conclusions from accumulated observations as, for example, a test of the validity of strong motion records.

#### **RELATED MEASUREMENTS**

Earthquakes are definitely related to crustal movements. It is reasonable to assume that if these movements can be detected, there is a possibility of prediction of the imminence of an earthquake. For a number of years geodetic measurements have been made in regions subject to earthquake and repeated after an interval to detect changes in the positions or elevations of monuments marking the points of observation. No repeat observations were made during the year, but many new monuments were established which can later be used for this special purpose.

Tilt measurements which require merely the continuation of an existing routine were maintained in California in the region of the Haywards Fault east of San Francisco Bay. New observations were started in the vicinity of Long Beach. The tilt is measured continuously, but it relates only to the place of observation (nonseismic tilt has to be eliminated). It is not yet known whether tilt is the important factor in earth-

## ECONOMIC GEOGRAPHY

quake occurrence in California as it appears to be in some parts of Japan.

Examination of gravity observations made in the region of the Andes Mountains in Colombia and Venezuela by the Coast and Geodetic Survey in cooperation with the governments concerned showed a relation between gravity anomalies (abnormal values of gravity) and severe earthquake occurrence, which should be further investigated.

Observation continued in several localities to determine the relation between loading the earth's crust by a large artificial lake and earthquake occurrence.

The installation and operation of a number of automatic tide gages in Central and South America by the Coast and Geodetic Survey and the governments concerned have made it possible to detect vertical crustal movements when they occur along the coast, and also to record seismic seawaves whose height is within the limits of the gages.

### SEISMOLOGICAL ORGANIZATIONS AND PUBLICATIONS

In addition to the organizations that have been mentioned, the Seismological Society of America with headquarters in San Francisco and its Eastern Section and the Section of Seismology of the American Geophysical Union have continued to function with particular attention to matters of military importance. The

Seismological Society of America has an advisory committee on seismology which advises on special problems, especially those requiring coordination. The Section of Seismology of the American Geophysical Union is also the American branch of the International Seismological Association. Publications have included annual lists of earthquakes, many monthly bulletins both printed and mimeographed, and results of special studies. There is much demand for information regarding regions where precautions must be taken, especially in relation to wartime construction.

### VOLCANOES

It has been difficult to learn much about volcanic activity during the war. Probably any noteworthy activity would have been reported, but this can be done only by people of the region, and in many cases moderate activity is not considered to have news value. Very great eruptions throw dust in the air and produce unmistakable effects on the sky; this did not occur during the year. Activity of the volcano Asama in Japan on May 10-11 was reported, but this is not unusual. On April 26 a lava flow started on the flank of Mauna Loa, Hawaii, and on May 2 the water supply of Hilo was threatened. Bombing from airplane diverted the flow, and it stopped on May 13. Volcanic activity in the Hawaiian Islands continued.

## ECONOMIC GEOGRAPHY

By SAMUEL N. DICKEN

ASSOCIATE PROFESSOR, UNIVERSITY OF MINNESOTA

### GENERAL

In 1942 the rapid readjustments in world production continued. The extending battle lines affected all parts of the world, but because of wartime censorship and other restrictions, it was impossible to gauge accurately the scope of the changes. In spite of handicaps, the lack of statistics, the

difficulty of carrying on field work, a goodly number of excellent articles and books have appeared. Some are the result of field studies well under way before the war became so widespread; others are concerned with regions not directly involved in the war; some are admittedly limited to second hand sources, pre-war observation, or no observation at all.



**GOVERNMENT AGENCY STUDIES**

More and more, in the United States, the study of economic geography is being taken over by the various government bureaus, not only the older departments such as Agriculture and Commerce, but by the newer agencies such as the Bureau of Economic Warfare and the Office of Strategic Services. The various bureaus have employed some of the best and most active workers in the field. In the main the results achieved so far by these workers are not available for publication, at least not until after the war. Knowledge of how much tin was produced in Bolivia or how much sisal in Mexico may be of value to the enemy. The results of some studies can be published, however, and this is reflected in the increasing proportion turned out by government agencies.

As in 1941 the emphasis was on strategic materials, those most needed for the war effort and relatively hard to obtain. Even here the interest is constantly changing. The scarcity of aluminum which was of interest in 1941 is no longer acute. Many of the studies have to do with the war economy in the various countries, the standard products, the effects of the war, the possibility of producing more goods. Such studies probably represent the most important contribution which Economic Geography can make in war or peace, although the most difficult to bring to a satisfactory conclusion. They require a broad background of geography, a skilful balancing of one quality against another, a study of the trends in production and their causes.

**NORTH AMERICA**

As in the past, many of the studies in the economic geography of North America were concerned with the details of production of a small district. Articles by Loyal Durand, Jr. ("Wisconsin Cranberry Industry," *Econ. Geog.*, Apr., 1942) and Paul C. Morrison ("Michigan Limestone Industry," *Econ. Geog.*, Jul., 1942), and by W. J. Gorman ("Steep Rock Iron Mine," *Can. Geog. Jour.*, Nov., 1942)

are representative of such studies. A similar study by George F. Brightman ("Cuyuna Iron Range," *Econ. Geog.*, Jul., 1942) shows the importance of the manganiferous iron ores in the war economy. Sven A. Anderson ("Trends in the Pulp and Paper Industry," *Econ. Geog.*, Apr., 1942) traces the trend from New England and the Middle Atlantic States to Canada and, to a slight extent, to the southern states. There are other studies of Canadian geography by Charles Camsell ("Natural Resources and Their Conservation," *Can. Geog. Jour.*, Jul., 1942), Ralph P. Bell ("Canada's Aircraft Industry," *Can. Geog. Jour.*, 1942) and L. J. Chapman ("Adaptation of Crops in Ontario," *Can. Geog. Jour.*, May, 1942). Walter H. Voskuil supplied an up-to-date analysis of coal transportation ("Bituminous Coal Movements in the United States," *Geog. Rev.*, Jan., 1942). On the whole, recent statistics and other information about North America continued to appear. Noteworthy was the publication of considerable material by the U. S. Bureau of the Census, especially the data on agriculture.

**LATIN AMERICA**

The greater interdependence of the Americas is reflected in numerous studies of strategic commodities obtainable in Latin America and in detailed studies of the economies of the several countries. For the former H. W. C. Taylor ("Wood, Wind, and Sail; The Coffee Fleet," *For. Comm. Weekly*, May 23, 1942), emphasizes the critical transportation problem for this important commodity. William N. Small ("Industrial Oil that Grows at the Rivers Edge: Oiticica," *For. Comm. Weekly*, July 11, 1942) shows the importance of this excellent vegetable oil. A summary of the fiber situation is given by Susan Lydia Bull ("American Fibers," *For. Comm. Weekly*, Feb. 7, 1942) with notes on the production of the various fibers, especially in Latin America. An interesting sidelight on rubber and the possibilities and difficulties of plantations in Amazonia is

## ECONOMIC GEOGRAPHY

presented by Joseph A. Russell ("Fordlandia and Belterra," *Econ. Geog.*, Apr., 1942).

Greatest interest in Latin American production by countries has been evident in *Foreign Commerce Weekly*. Following are the countries studied and the dates:

Bolivia, June 6.	Brazil, Feb. 21,
Uruguay, June 20.	July 25.
Panama, July 4.	Colombia, Oct. 24.
Ecuador, July 18.	Venezuela, Oct. 31.
Amazon Valley,	Chile, Oct. 3.
Aug. 29.	Peru, March 21.

The United States Tariff Commission continued its studies of Latin America with studies of "Foreign Trade of Latin America," Parts 2 and 3. Although not concerned exclusively with economic geography. Preston James' book (*Latin America*, The Odyssey Press, 1942) gives the best overall view of the various countries, with production maps of the several regions.

### AFRICA

Interest in Africa like that in Latin America was centered around strategic agricultural and mineral products and the regions which produce them. Bertha Merdian ("The Agricultural Resources of Mozambique," *For. Agric.*, Oct., 1942) shows the growing importance of sugar, copra, and bananas in Portugal's most important African colony. H. L. Shantz ("Agricultural Regions of Africa, Part III," *Econ. Geog.*, July, 1942) discusses the present and potential productivity of the land and classifies the colonies on the basis of agricultural export per square mile of agricultural land. As in Latin America the *Foreign Commerce Weekly* for 1942 treats the economy of the Belgian Congo, Apr. 25; Madagascar, June 6; Union of South Africa, Aug. 22; Dakar and its Back Country, Sept. 12; French North Africa (with detail on Algeria), Nov. 22; Tunisia, Dec. 5. Other significant articles include one by Pieter K. Roest ("French Equatorial Africa," *For. Agric.*, March, 1942) with a map showing limits of various crops, and one by Piet van

Der Bye ("South Africa's War Effort," *Can. Geog. Jour.*, Jan., 1942).

### EUROPE

With the discontinuance of many European geographical periodicals there have been fewer studies reaching this country. Lazar Volin ("North Caucasus—a Russian Granary," *For. Agric.*, July, 1942) gives an excellent summary of the crops with recent statistics for the region north of the Caucasus. In the January number of the same publication Ewert Aberg ("Sweden Adjusts Its Agriculture to War Conditions") describes the increased acreage of rye, wheat, and sugar beets as a part of Sweden's effort to become self sufficient. Italy's deficiencies are discussed in an unsigned article ("Italy's Raw-Material Problems," *For. Comm. Weekly*, Jan. 3, 1942). Ernest C. Roper describes Russia's new industrial district ("Soviet Industry in the Urals," *For. Comm. Weekly*, May 23, 1942) in terms of mineral resources, power, and labor supply. In no part of the world has there been more profound changes in production but as yet little is known of the exact nature of the changes.

### ASIA

Few studies with adequate background of field work and with reliable statistics have come out of Asia in the past year. With the spread of the war front to include a much greater part of the continent opportunities for independent studies have been eliminated. Some studies, completed just before Japanese occupation, represent the latest peacetime conditions in some countries. Such a study is Robert Pendleton's ("Land Utilization and Agriculture of Mindanao, Philippine Islands," *Geog. Rev.*, Apr., 1942) and E. H. G. Dobby's ("Settlement Patterns in Malaya") in the same number. Most of the other studies are based on second-hand material but are nevertheless valuable for the last available picture of production. W. I. Ladejinsky's ("Thailand's Agricultural Economy," *For. Agric.*, May, 1942) emphasizes the

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importance of rice in Thailand. A somewhat similar study of Burma (*For. Comm. Weekly*, May 9, 1942) discusses rice, teak, tin, and tungsten. Some titles like that of L. Dudley Stamp ("Siam Before the War," *Geog. Jour.* May-June, 1942) candidly admits that little post-war information is available from this part of Asia. The series in *Foreign Commerce Weekly* include Palestine's economy, Sept. 12, 1942; Manchuria, Oct. 10, 1942. The route of a new railroad ("The Trans-Persia Railroad," *Can. Geog. Jour.*, Sept., 1942) is described, with map, by E. R. Yorham.

### OCEANIA

In 1942 the war reached out to most of Oceania, which not only became in part a battle ground but found itself isolated from markets and sources of supply. Because of the transport of large numbers of troops and supplies from the United States to Australia, some commodities, notably wool, could be shipped out on the return voyages, and as a result the trade of Oceania was directed more and more toward the United States. Heavy commodities, however, piled up in the warehouses, especially in New Zea-

land, and there was great difficulty in collecting some of the commodities needed in the United States. Margaret Wambsgness ("Australia's Wool," *For. Comm. Weekly*, June 27, 1942) describes the production and export of wool. Based on field studies before the war reached Oceania are articles by Clifford M. Zierer ("Land Use Differentiation in Sydney, Australia," *Ann. Assoc. Am. Geog.*, Sept., 1942) and by Robert G. Bowman ("Prospects of Land Settlement in Western Australia," *Geog. Rev.*, Oct., 1942).

### PERIODICALS

*Annals of the Association of American Geographers*, Lancaster, Penn. *Canadian Geographical Journal*, Ottawa, Canada. *Commerce Monthly*, Washington, D. C. *Economic Geography*, Worcester, Mass. *Foreign Agriculture*, Washington, D. C. *Foreign Commerce Weekly*, Washington, D. C. *Geographical Journal*, London. *Geographical Review*, New York. *Journal of Geography*, Chicago. *Encyclopaedia Britannica*, *World Atlas* (World resources, production, and trade) Chicago, 1942.

## MINERALOGY AND PETROGRAPHY

By CLIFFORD FRONDEL

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### QUARTZ RADIO OSCILLATOR-PLATES

Slices of crystalline quartz of the approximate dimensions of a postage stamp now constitute one of the most important factors in the war effort. The tiny plates, by virtue of the property of piezo-electric interconversion of mechanical and electrical energy possessed by quartz, are used as filters in coaxial telephone communication systems and as oscillators to control the frequency of transmitting and receiving radio sets. Prior to the war a handful of small manufacturers operating essentially on a laboratory scale produced a few thou-

sand plates a year. Since Pearl Harbor, the Army and Navy has demanded millions of the plates for use in controlling communication in tanks and other mobile or stationary ground units, airplanes, battleships, destroyers, Coast Guard ships, Asdic and other detection devices, and diverse miscellaneous uses. At least one and in certain sets over 100 plates are used in a transmitter. The question of supply created an industrial problem of the first magnitude. The plates are sawed at certain angles from rough natural quartz crystals and are ground to specified dimensions with a care greater than that

given diamonds. Complex x-ray and optical controls must be used in the production line to attain the precise angular relations required relative to the mother quartz crystal. Accepting these technical difficulties, more than 100 new manufacturers have started from scratch, in most instances without personnel possessing the necessary scientific training, without a proper knowledge of the methods and controls used in processing the raw material, and without adequate equipment. The insistence by the military authorities for immediate and large production further complicated the problem. The present large and rapidly mounting production, made in the face of prophets of the "it can't be done" type, is a tribute both to American industry and to the guidance of the U.S. Army Signal Corps.

The usefulness of the plates arises in the ability of quartz to expand and contract very slightly in tune with the frequency of an applied alternating voltage. The vibration of the plates, however, becomes significant only if the natural period of mechanical vibration of the plates is the same as the applied voltage. The phenomenon of resonance then occurs. The mode and period of vibration of the plates depends on their physical dimensions and on their crystallographic orientation relative to the parent quartz crystal. The mechanical vibration generates electrical charges of a very exact frequency which are fed back into the circuit and are then amplified. Radio wave-lengths are thus kept to an assigned sharp frequency, and a broad overlapping band of reception, familiar in radio receiving sets of the 1920's, is obviated. The quartz can be made to oscillate at any desired frequency by varying the physical dimensions of the plate. The frequency of a plate also varies to some extent with the temperature. Control over this factor is desirable in as much as the plates are used militarily over a range of Arctic to tropical jungle or desert climates. The temperature coefficient can be kept to a minimum

by sawing the plates at particular angles in the mother crystal.

Brazil is the only important commercial source of raw quartz crystals of sufficiently high quality to be used for piezo-electric purposes. The mineral is obtained from widely scattered shallow surface workings opened in the decomposed outcroppings of veins and pegmatite dikes. A small amount of rounded waterworn crystals is obtained from stream and river gravels. The latter material is of relatively high quality but has not been widely utilized in the past because of the difficulty of properly orienting the crystals prior to sawing. The quartz deposits are worked by crude methods and, for the most part, on a small scale. Efforts to develop commercial sources of quartz in the United States so far have been unsuccessful. During the first 8 months of 1941 about 1,200 tons of quartz crystals, valued at about \$2,250,000, were exported from Brazil. Roughly a third of this production went to Germany and Japan. At the present time raw quartz crystals a pound or so in weight and of average quality bring from \$4 to \$8 a pound. The price increases up to \$30 or more a pound with increasing size and quality of the raw crystal. A considerable stockpile has been built in the United States by the Metals Reserve Company, but the matters of supply and quality are still critical. The importation of quartz is now under the control of the War Production Board.

## RARE ALKALIES IN MICA

The first of a series of researches on the distribution in nature of the rare alkalies—lithium, rubidium, and cesium—has been completed by the U.S. Geological Survey. These elements are found to be especially abundant in mica from pegmatite dikes. The mica formed during the later stages of hydrothermal replacement in these deposits usually contain the highest percentages of the alkalies. Lithium also occurs in significant amounts in clays and in a number of minerals not found in pegmatites. Rubidium, on the other



hand, appears to be absent in non-pegmatitic minerals; it occurs most abundantly in lepidolite and typically is found in complex types of pegmatites where it is associated with lithium minerals.

#### SHAPE OF QUARTZ SAND GRAINS

The quartz grains in many metamorphic and sedimentary rocks and in ordinary loose sands tend to be elongated parallel to the vertical crystal axis of the quartz. In some instances, the grains are elongated parallel to the unit rhombohedron. Current explanations ascribe the elongation to cleavages in the quartz which tend to shape the grains or to differential abrasion reflecting the greater hardness of quartz along the vertical axis. Experimental work at the Geophysical Laboratory, Washington has now shown that neither cleavage nor differential abrasion is adequate to explain the observed shapes. It is concluded that the elongation is due to the original shape of the grains as assumed by the crystals during their growth.

#### ALKALINE PEGMATITES OF MONTANA

An unusual group of alkaline pegmatites, akin to those of the Kola Peninsula in Russia, recently has been found in the Bearpaw Mountains, Montana. The dikes occur in a composite stock of Tertiary alkalic rocks. Mineralogically, the deposits are of great interest although of no economic importance, and have yielded eudialyte, elpidite, lamprophyllite, and other rare species. The pegmatites occur in the field as segregation bodies and dikes in nepheline syenite and contiguous monzonites and chonkinites.

#### X-RAY IDENTIFICATION TABLES

The familiar tables for the identification of minerals by the systematic application of chemical or physical tests are being supplemented by the appearance of determinative tables based on x-ray powder diffraction patterns. The most recent contribution to this field includes data for

168 ore minerals. More extensive x-ray tables for minerals are in preparation. Tables for over 1,000 artificial compounds are already available.

#### VARISCITE DEPOSITS AT FAIRFIELD, UTAH

A thorough description has been published of the famous variscite deposit at Fairfield, near Salt Lake City. The variscite occurs as nodules in a brecciated zone in limestone. The mineral was formed by the action of phosphatic ground waters derived by the weathering of overlying phosphorite beds. The variscite was later altered by ground waters of different composition, and afforded a complex series of alteration products. Here may be mentioned pseudowavellite, gordonite, sterrettite, overite, apatite, deltaite, and montgomeryite.

#### DISTRIBUTION OF IMPURITIES WITHIN A CRYSTAL

The ordinary concept of a crystal as a chemically homogeneous structure is found not to hold in all instances. Precision spectrographic analyses have now shown that foreign elements present in traces within crystals of galena, calcite, and other species are not uniformly dispersed throughout the body of the host crystal. Instead, the host crystal is found to be internally partitioned into shell- or pyramid-like regions which differ in their content of foreign material. The compositional heterogeneity is found to be directly related to the growth faces of the crystal in so far as the spatial distribution is concerned. The effect itself originates in diffusion processes peculiar to crystal growth-surfaces and in the selective adsorption properties of different kinds of crystal faces. Galena crystals were found in general to contain a relatively large amount of silver in solid solution in those parts of the host crystal subjacent to octahedral faces.

#### CONSTITUENTS OF URINARY CALCULI

Although urinary deposits are not within the ordinary scope of mineral-

ogy, the determinative methods used in the science have been applied with marked success to the study of kidney and bladder calculi. The ill-defined calcium phosphate often found associated with struvite in alkaline calculi has been identified by x-ray study as carbonate-apatite. This substance also has been identified in testicular and other calcifications and, as is well known, comprises the inorganic constituent of teeth and bone. Mono- and dihydrated calcium oxalate, known respectively as the minerals whewellite and weddellite, are the principal constituents of the so-called oxalate calculi. Brushite and whitlockite also have been identified in urinary deposits. Optical methods of study of urinary concretions have proven to be rapid and accurate and no doubt will be used to supplement the present chemical methods of analysis.

## MINERALOGY OF INSULAR PHOSPHATE-ROCK

Chemical and x-ray study of insular phosphate-rocks has shown that the principal mineral constituent is a member of the apatite series, usually a carbonate-apatite. Other calcium phosphates found as rarities in phosphate-rock deposits include monetite, brushite, whitlockite, and carbonate-whitlockite. A number of supposed species, among them zeugite, ornithite, martinite, and pyrophosphorite, reported from these deposits, now prove to be non-existent. The substance termed collophane, thought to be a distinct species, is found to be only a fine-grained variety of apatite.

## NEW MINERALS

The name *cryptomelane* has been proposed for a new manganese oxide found in economically important

amounts in nature. The mineral hitherto went unnoticed among the complex group of minerals included under the general name of wad or psilomelane. An extensive survey of the manganese minerals at the U.S. Geological Survey has shown that cryptomelane constitutes roughly about 60 per cent of the natural manganese oxides. The mineral is characterized by the presence of potash and by a low content of barium oxide. *Sampleite* is a new chlorophosphate of copper from the great mine at Chuquicamata, Chile. The problematical mineral *graphite*, long known from pegmatite deposits in the Black Hills, has been shown to be isometric and to have a crystal structure similar to that of garnet. A new arsenate-sulfate of iron from the Santa Elena mine, Argentina, has been named *sarmientite*. The magnesium borate minerals, ascharite, camsellite and beta-ascharite, have been shown to all to be identical with *szaibelyite*. *Calingastite* is a zinc-bearing variety of melanterite found associated with sarmientite. The name *cadwaladerite* has been given to a new basic aluminum chloride from Cerro Pintados, Chile. The mineral occurs with pickeringite, truedellite, and various iron sulfates. A variety of coasite containing selenium from Boliden, Sweden, has been named *selencosalite*. A selenium-bearing variety of kobellite occurs at the same locality. A variety of magnetite containing chromium from a contact metamorphic deposit near Ishkul Lake, Russia has been termed *ishkulite*. The suspected identity of the aluminum minerals *tanatarite* and *diaspore* has been proven by x-ray study. The manganese mineral *sitaparite* has been discredited and shown to be identical with bixbyite.

## TERRESTRIAL MAGNETISM AND ELECTRICITY

BY JOHN A. FLEMING

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CARNEGIE INSTITUTION OF WASHINGTON**OBSERVATORIES**

Although the services of many investigators have been diverted from research in terrestrial magnetism and electricity to the solution of more urgent scientific problems connected with the prosecution of the war, the regular programs at observatories have been maintained and some field-work has been accomplished. The five magnetic observatories of the United States Coast and Geodetic Survey continued in operation. At San Juan (Puerto Rico) and Tucson (Arizona) special attention was given to the improvement of the absolute values of the vertical intensity by comparisons with the standard at the Cheltenham Magnetic Observatory (Maryland); the Department of Terrestrial Magnetism of the Carnegie Institution of Washington cooperated in this through the loan of instruments. At Sitka (Alaska) an insensitive variometer was installed to permit complete recordings of magnetic storms. During July, transfers to newly constructed buildings were made at Sitka and Tucson after suitable periods of simultaneous operation in old and new buildings to insure continuity of series.

The observatories at Meanook and Agincourt in Canada under the Dominion Observatory were operated as usual throughout the year, as also the Teoloyucan Observatory of the National Astronomical Observatory of Mexico.

In Greenland, the Godhavn Magnetic Observatory was continued with the assistance of the Department of Terrestrial Magnetism in supplying photographic paper and accessories which could not be obtained

from Denmark. During June 1942, Dr. K. Thiesen, director of the Godhavn Observatory, spent three weeks at the temporary magnetic station at Ivigtut and made arrangements for its operation. The results from the latter station will be of much importance to studies of the Earth's magnetism because of its location near the center of the auroral zone.

The temporary magnetic observatory established at College (Alaska) in collaboration with the University of Alaska by the Department of Terrestrial Magnetism continued in operation throughout 1942. An automatic camera for recording auroras was installed at the College Observatory after tests to make certain of satisfactory operation at temperatures down to 20° F below zero were conducted at the National Bureau of Standards in Washington. Preliminary reports from the Observatory indicate a high correlation between auroras observed directly overhead and significant ionospheric phenomena.

The Pillar, La Quiaca, South Orkneys, and San Miguel observatories in Argentina, the Vassouras Observatory in Brazil, the National Observatory of San Bartolomé in Colombia, and the Huancayo Observatory operated by the Carnegie Institution of Washington in Peru continued their geophysical programs throughout 1942.

**SURVEYS**

The magnetic survey of the countries bordering on the Caribbean Sea, begun in 1941 by the U. S. Coast and Geodetic Survey with the cooperation of the interested American republics, was completed in June. Observations were obtained at 56 stations; the majority of these were re-

(For details regarding observatories of the Western Hemisphere see *THE AMERICAN YEAR BOOK*, 1938, pp. 697-704.)

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occupations of stations established in earlier years by the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. The resulting data are being utilized in the preparation of a new edition of the isogonic chart of those regions. Eight stations were also occupied in the Bermudas late in June and early in July. Beginning in October, 1942, the Survey has two observers at work in South America, again with the co-operation of interested American republics, determining secular variations at about 50 additional well-distributed stations. The rapid progress in these surveys is possible through transportation by air. This work is being undertaken by the U. S. Coast and Geodetic Survey since the Department of Terrestrial Magnetism is unable to make the 10-year series due at this time. The Department was consulted in order that the high standards of the previous observations made by its personnel may be assured. That Department also made available two of its magnetometer-inductors for this purpose.

The Coast and Geodetic Survey continued its magnetic surveys and occupied some 20 stations in Alaska and 124 stations in the continental United States during 1942. A new isogonic chart of Alaska for the epoch 1940 was completed and isomagnetic charts showing the other elements are in preparation.

### WORLD SURVEY

The Carnegie Institution of Washington continued its geomagnetic program at the Watheroo Magnetic Observatory in Western Australia. The Land Station at the Apia Observatory, Western Samoa, in which the atmospheric-electric observations were made, was closed Dec. 31, 1941, thus terminating after a sunspot cycle the geoelectrical measurements conducted since 1921; the geomagnetic, seismic, and other geophysical programs of that Observatory continued as heretofore.

### GEOMAGNETIC RESEARCH

New world isoporic charts for the

epoch 1930-35 are being constructed at the Department of Terrestrial Magnetism and preliminary steps have been taken to construct similar charts for the epoch 1940-45. Geomagnetic charts for the present epoch show large systematic errors and the new isoporic charts should assist materially in providing more accurate rates of secular change needed for their improvement and the best use to research of the available material.

The investigation of methods of field-analysis and of the use of machines to facilitate such analysis was continued. To conclude the project of field-analysis by integrals on the theoretical side, an attempt was made to obtain a more compact expression for a function giving external current-systems corresponding to any observed magnetic field at the Earth's surface. Two methods previously worked out give a complete and exact solution but are rather slow in application. This function is intimately associated with the height of electric current-systems above the Earth compatible with observed fields at the surface.

The annual variation was derived from data for about 65 observatories of the Polar Year 1932-33. This variation can be separated into two parts, one of which is symmetrical about the equator with a minimum near the equinoxes and varies with latitude proportionately to the annual average of disturbance in amplitude. The remaining part is nearly sinusoidal in character with a period of one year, with minimum at the winter solstice. The annual variation thus comprises both an annual and a seasonal component. It varies in amplitude with sunspot-cycle, the amplitude for years of sunspot-maximum being about twice that for years of sunspot-minimum.

A possible electric current-system of the part symmetrical about the equator was found to resemble closely that corresponding to the annual average of the daily means of disturbance if the lines of current-flow are assumed to lie in closed circuits in a thin layer in the Earth's atmosphere



at constant height. Lines of current-flow extend from east to west in all latitudes with maximum concentration of current in polar regions. In the case of the sinusoidal part the current-lines are roughly along parallels of geomagnetic latitude opposite in direction in the Northern and Southern Hemispheres and increase in intensity from zero near the equator to a maximum in polar regions where the variation with time of year is marked. This notable seasonal variation also gives rise to considerable distortion in the average current-system of geomagnetic disturbance.

A study has been made of the frequency and current-systems of geomagnetic bays based on extensive data of the Second International Polar Year, 1932-33. The daily and annual frequencies of bays were examined for groups of stations in four different latitude-zones: (1) near the geomagnetic north pole; (2) the auroral zone; (3) middle latitudes; and (4) the equator. The new results show that bays appear with about equal average frequency with local geomagnetic time found in zones (2) and (4) being occasioned by a notable variation in the amplitude of bays with time of day. In all latitudes bays appear with an average amplitude greater at the equinoxes than at the solstices.

An approximation to the average current-system of bays was deduced, assuming that the currents are confined to a spherical shell concentric with the Earth, at a height of 150 km., using averaged vector-changes of many bays taken for time of maximum. The simple current-system was found to afford a fairly satisfactory possible explanation, both qualitative and quantitative, of the world-wide incidence of bays in frequency and amplitude.

#### GEOELECTRIC RESEARCH

Ionization-meters were designed, constructed, and tested at the Department of Terrestrial Magnetism for use in a more precise investigation of the question whether the

amount of radioactive matter in the Earth, measured by other methods, is adequate to account for the rate at which ions are formed in the air over land by agencies other than cosmic radiation.

The rate of loss of nuclei from the air or the rate of decrease in the number of nuclei in the air may be attributed to either or both of the following processes: (a) Nuclei may coalesce and form larger entities which settle out of the air; (b) they may reach the Earth's surface on the walls of rooms, etc., simply by diffusion and adhere to the surface of these. An investigation of this question showed that the diminution depended to some extent on the nature of the nuclei, namely, the source of supply. The diminution-rate is greater for nuclei formed from the more volatile liquids, and those produced by "concentration upon molecules" appear to be less stable than others.

Investigations of atmospheric-electric phenomena registered at the Watheroo (Western Australia) and Huancayo (Peru) magnetic observatories indicate that at Watheroo, both during the day and night, nuclei introduced into the atmosphere from sources on the Earth are disseminated throughout a stratum extending from the Earth to a height of at least one km; at Huancayo, however, where nuclei are in much greater concentration than at Watheroo, they are also distributed in a stratum to a height of about 1.5 km during the daytime, yet at night in the dry season a shallow stratum of stable air often forms and in this concentration of nuclei diminishes during the night to less than one-tenth of the concentration in daytime. There are corresponding large changes in the atmospheric-electric elements.

James F. Mackell of the Indiana State Teachers College reported in the *Proceedings* of the Indiana Academy of Sciences for the year 1941 on experiments which "are being conducted in an effort to determine the relationship which may exist between atmospheric-electric phe-

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nomena and certain meteorological phenomena such as barometric pressure, relative humidity, temperature, and sunshine. The method being employed makes use of an alpha-ray electroscopes designed for the purpose, an alpha-ray source, and other similar apparatus. Measurements of the atmospheric-electric potential-gradient at points in the vicinity of Terre Haute and also of the electric conductivity of the atmosphere at these points with simultaneous measurements of a meteorological character are being made. Data obtained so far are insufficient for final conclusions but indicate a positive relationship."

### IONOSPHERIC RESEARCH

Radio apparatus provides our only means of exploring the ionosphere which extends from about 40 to 400 miles above the Earth. Short pulses of radio-frequency energy, which are transmitted, penetrate the atmosphere until they encounter concentrations of ions and electrons of sufficient density to bend them around and return them to Earth. The recorder measures time-interval between signal and "echo," providing values of virtual height of the reflecting region. For example, a signal reflected from a layer 100 km above the Earth travels an overall distance of 200 km, which requires transit time of just two-thirds of one-thousandth of a second (0.00067 sec.). Waves of higher frequency are more penetrating and require greater concentrations of electrons for reflection. Waves of still higher frequencies are not returned to Earth, since the ionosphere does not contain sufficient concentrations of charges to reflect these signals. Complete radio exploration of the ionosphere is effected with apparatus which automatically sweeps over a wide range of frequencies and records photographically the heights of the reflected signals. Equipment for this purpose has been developed by the Department of Terrestrial Magnetism and its continuous operation is providing a solid foundation for detailed analysis of

geomagnetic and related phenomena.

Interpretations of ionospheric reactions during magnetic storms indicate a post-perturbation effect which may be world-wide in nature. Following several of the magnetic disturbances, rapid decreases of electron-density in the  $F_2$ -region were recorded at both Huancayo and Watheroo observatories. The trend of recovery and the time of reaching normal conditions at both stations appear to have a substantial relationship.

### COSMIC-RAY RESEARCH

The compilations and details of maintenance of the cosmic-ray meters at the Cheltenham, Huancayo, Teoloyucan, Christchurch, and Godhavn observatories were maintained by the Department of Terrestrial Magnetism. Through the courtesy of the Consul-General of Denmark at New York, the necessary supplies, batteries, and replacements for operation and maintenance were forwarded to Greenland from the Department.

Despite the demands of the war-research program, Prof. A. H. Compton maintained an effective group for cosmic-ray studies at the University of Chicago. Of special interest were the results of the mountain experiments showing the production of mesotrons by photons and protons and the study of the production of mesotrons near the top of the atmosphere by incoming protons. Apparently there was demonstrated for the first time, in the production of mesotrons by photons traversing matter, the interaction of electrical and nuclear forces.

Prof. Victor F. Hess and associates at Fordham University corroborated the view that the so-called temperature-effect of cosmic rays is primarily one of atmospheric mass-distribution variations. A study was also made of the changes of mesotron-intensity with the change in the average height of the center of gravity of the atmosphere, and from the coefficient of displacement derived therefrom the mean range of life and lifetime of

mesotrons at sea-level were calculated.

At the Bartol Research Foundation, progress was made on construction of the large high-pressure Wilson cloud-chamber. Analysis was completed of investigations of the composition of the cosmic radiation in the lower atmosphere and of processes of interaction of cosmic rays with matter.

Prof. S. A. Korff, now at New York University, from analysis of the cosmic-ray data obtained on the United States Antarctic Expedition during 1940, found that the fluctuations in cosmic-ray intensity correlated somewhat better with changes in the temperature of the upper atmosphere than with those at sea-level. From experiments at Swarthmore, in Denver, and on the summit of Mount Evans, it was found that a large percentage of neutrons were associated with cosmic-ray showers.

Dr. R. A. Millikan and his associates and students at the California Institute of Technology made tests at various stations in Mexico and in the United States of their hypothesis as to the origin of cosmic-ray energies and obtained results apparently confirming it. The 60-cm high-resolution cloud-chamber for the more accurate study of the properties of mesotrons was completed and improvements of cosmic-ray Geiger counters and studies of their mechanisms were made.

#### CORRELATION WITH GEOMAGNETIC DISTURBANCES

The period of geomagnetic disturbances during Feb. 28—March 7, 1942 was also one of unique disturbances in cosmic-ray intensity. Unusual increases in cosmic-ray intensity (around 7 to 8 per cent) on Feb. 28, preceding the sudden-commencement geomagnetic storm on March 1, were recorded simultaneously at Cheltenham (Maryland), Norfolk (Virginia—on the S.S. *Santa Ana*), Godhavn (Greenland), and Christchurch (New Zealand) but not at the Huancayo (Peru) Magnetic Observatory on the geomagnetic equator. Characteristic decreases (7

to 10 per cent) of cosmic-ray intensity, so frequently associated with geomagnetic storms, were recorded at all five stations coincidentally with the sudden-commencement geomagnetic storm at 7<sup>h</sup>5 GMT, March 1. Professor Duperrier also reported a decrease of some 12 per cent from normal at his station in England during "this not very great magnetic storm of March 1, 1942."

The absence at Huancayo of this increase in cosmic-ray intensity is quite striking. This is in contrast to the fact that, during a magnetic storm, no considerable decrease in cosmic-ray intensity has been observed at Godhavn, Cheltenham, or Christchurch which was not also observed at Huancayo.

The simultaneous occurrence, on Feb. 28 and March 7, of two large increases in cosmic-ray intensity at Godhavn, Cheltenham, and Christchurch, suggests that they result from the magnetic effect on cosmic-ray trajectories of an eastward ring-current outside the Earth's atmosphere. Similar, but westward flowing, ring-currents would explain the worldwide increase in horizontal magnetic intensity which usually precedes, although by only a few hours, the main phase of magnetic storms. That these eastward currents endure only a few hours, whereas the westward currents may endure several days, also suggests that the former are responsible for the two sharp increases in cosmic-ray intensity of Feb. 28 and March 7, especially since there is indication of simultaneous increases of horizontal magnetic intensity.

Had the increase in cosmic-ray intensity observed on Feb. 28 occurred during a magnetically quiet period, and preceding the magnetic storm by some 20 hours (the estimated time required for particles producing magnetic storms to travel from the Sun to the Earth), this might have indicated the Sun as a source of cosmic rays. However, since the majority of large changes in cosmic-ray intensity, and indeed even the smaller ones which show a 27-day recurrence tend-

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ency, are so closely associated with magnetic disturbance, it seems probable that the unusual increases in cosmic-ray intensity observed on Feb. 28 and March 7, 1942, also resulted from the magnetic-storm field.

### PUBLICATIONS

The *Transactions* of 1942 of the American Geophysical Union have been issued in two parts (741 pages) and contain the papers and reports presented at the 23rd annual meeting. In these *Transactions* are included progress-reports and scientific papers pertaining to investigations in geomagnetism and geoelectricity in North America.

Because of the war, the Navy transmissions of Ursigrams were suspended on Dec. 8, 1941. The distribution of cosmic data through the weekly *Science Service Research Aid Announcements* was also suspended; the Announcements contained the American magnetic character-figures for each Greenwich half-day and three-hour-range indices (K-numbers). The Department of Terrestrial Mag-

netism of the Carnegie Institution of Washington continues to collect and compile the data for such official use as is compatible with the war emergency and it is expected that, at the proper time, they will be published. Persons having legitimate need for cosmic data may apply to the Director, Department of Terrestrial Magnetism, 5241 Broad Branch Road, Northwest, Washington, D. C., or to the agency responsible for the specific information desired.

During the year the U. S. Coast and Geodetic Survey issued the magnetic results for 1931-32 for each of the observatories at Cheltenham, Sitka, Tucson, and Honolulu.

The *Quarterly Journal of Terrestrial Magnetism and Atmospheric Electricity*, published by the Johns Hopkins Press, completed its 47th volume in 1942. Besides original articles, it contained sections on magnetic storms, magnetic character-figures, sunspot-numbers, notes, reviews, and bibliography. The series of papers dealing with the mathematical treatment of isomagnetic charts, begun in 1941, was concluded.

## AMERICAN EXPLORATION

By ROBERT M. BROWN

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As might be expected, American exploration in most parts of the world was at a standstill during 1942. A few parties were reported in the field but the area of exploration was limited to Central and South America.

### GUATEMALA

The fourth botanical expedition to Guatemala, under the leadership of Dr. Julian A. Steyermark, Assistant Curator of Herbarium of the Field Museum of Natural History, went into the field in December, 1941, and remained for ten months. This was expected to conclude the field work carried on since 1928 in preparation for a publication on the flora of

Guatemala by Dr. Steyermark jointly with Paul C. Standley, Curator of the Herbarium, who conducted two of the previous expeditions.

During 1942, the time was devoted chiefly to the exploration of areas not previously investigated. Because of the diversity of topography and climate in Guatemala within comparative short distances, a much greater range of plant types are possible than in many an area of the same size, and certain localities especially rich in varieties demand close scrutiny. The rainy season when plants reach their maximum floral growth is best adapted for the study of the specimens but extremely difficult for the student.



**VENEZUELA**

The Field Museum-Venezuelan Government Botanical Expedition to the Upper Orinoco, in charge of Llewelyn Williams, Curator of Economic Botany, began in October, 1941 and continued in operation throughout most of 1942. This was Mr. Williams's third expedition to one of the botanically least explored areas of tropical America.

Dr. William Beebe of the New York Zoological Society left in February, 1942 for Venezuela and returned in September after a seven months expedition to the jungles of Venezuela. Associated with Dr. Beebe were Miss Joceyln Crane, zoologist; Miss Mary Vander Pyl, field associate; Henry Fleming, entomologist; and George Swanson, artist. The expedition's main aim was a study of the evolution of animals in the jungle area as a continuation of Dr. Beebe's eight-year studies of the jungle animals of British Guiana. The expedition was financed by the Simon Guggenheim Foundation and aided by the Nelson Rockefeller Committee for Inter-American Intellectual Relations and the Standard Oil Company of New Jersey.

**COLOMBIA**

In April, E. Thomas Gilliard, Assistant Curator of Birds, American Museum of Natural History, returned by air from a highly successful ornithological expedition to the Macarena range, an isolated Andean outlier in Colombia.

**ECUADOR**

Donald Collier, Assistant Curator of Archaeology and Ethnology of the Field Museum of Natural History, returned early in 1942 after five months of archaeological excavation and exploration in Ecuador of sites once the seats of prehistoric Indian communities. Field Museum shares the results of this expedition with the Institute of Andean Research of New York.

**PERU**

The Field Museum Expedition to Peru, conducted by Collin C. San-

born, Curator of Mammals, completed its work in April, 1942, after nine months of zoological collecting during which 400 specimens of mammals, 900 of reptiles, 300 of fishes, 100 of birds, and of numerous insects were obtained for the Museum's research collections. With collections obtained by previous expeditions, Field Museum now has the largest representation of the fauna of southern Peru that has ever been brought out of that country. The work was done under the cooperation of the Peruvian Government, the University of San Marcos at Lima, and the Museo Javier Prado of the University.

**CHILE**

Junius Bird continued his archaeological work in northern Chile under the auspices of the Institute of Andean Research and the American Museum of Natural History, excavating at Arica, Punta Pichalo near Pisagua, and at Taltal. At Arica the analysis of the material excavated indicates three major occupational periods, and at Punta Pichalo, four culture periods, the first two correlating with Arica. At Taltal only a single occupational period was found.

**HONDURAS**

The Field Museum Paleontological Expedition to Honduras, which began work in November, 1941 under the leadership of Dr. Paul McGrew, Assistant Curator of Paleontology, returned in April, 1942. Some 250 fossil specimens of mammals of early Pliocene and Pleistocene ages were collected, but because of the danger of water transportation, the collection was stored in Guatemala until the end of the war. In the Departamento de Gracias, a large number of fossils of dwarfed horses, dogs, rhinoceroses, deer, and camels were obtained. In the Departamento de Copan were found a fine collection of late Pleistocene mammals. In the former department, the forms appear to be allied to northern species, while, in the latter, types from both North America and South America were obtained.

## OCEANOGRAPHY

### CONSERVATION EXPEDITIONS TO SOUTH AMERICA

Two goodwill expeditions to South America were announced by the National Park Service. Dr. T. Harper Goodspeed, director of the Botanical Gardens, University of California, combined a plant hunting and lecture tour. Dr. Goodspeed led an expedition to the southern Andes in 1935 and again in 1938 (see *THE AMERICAN YEAR BOOK*, 1938, p 708). Julian Vogt, a ranger naturalist of the National Parks, has been awarded a Roosevelt Fellowship, established by the Office of the Coordinator of Inter-American Affairs, to visit the Parks and Reservations of South America. Both leaders sought to gain a mutual agreement and understanding of common conservation problems.

#### MEXICO

Dr. Gordon F. Ekholm continued, under the auspices of the Institute of Andean Research, his archaeological work of 1941. Excavations were made at several sites in the Tampico-Panuco region, Mexico. The most important was a stratigraphic excavation in Panuco which revealed a long period of occupation, itself divisible into six chronological periods, a sequence which can be related to the

most important cultural sequences in Mexico and Central America.

#### GULF OF MEXICO

The exploration of the sponge beds of the Gulf of Mexico along the west coast of Florida, begun in November, 1941, was completed during the year under the leadership of Dr. Roy Waldo Miner, American Museum of Natural History, assisted by Dr. John C. Armstrong and Chris E. Olsen. The object of the work was to study the animal associations connected with the sponge growths on the sea floor, by means of diving helmets, in order to reproduce them in a Sponge Fisheries Group for the Hall of Ocean Life.

#### CANADA

Dr. Froelich G. Rainey, American Museum of Natural History, spent the summer in an effort to locate archaeological deposits along the route of the highway under construction between Fort St. John, British Columbia, and Fairbanks, Alaska, by the U. S. Army. Although this 1,500-mile route offered what was apparently an unrivaled opportunity for archaeological reconnaissance, no evidence of occupation of this area was found.

## OCEANOGRAPHY

By L. P. DISNEY

UNITED STATES COAST AND GEODETIC SURVEY

### HYDROGRAPHIC SURVEYS AND RESEARCH PROJECTS

All oceanographic activities in offshore areas were radically curtailed during the year due to the war. Work still carried on by governmental agencies, as well as by oceanographic institutions, was primarily to urgent surveys of inshore areas and to governmental research projects so connected with the war effort as to be of a confidential nature.

The Hydrographic Office of the

United States Navy received, plotted and correlated over 50,000 sonic soundings, mostly over previously unsounded areas. These soundings are being incorporated on affected charts as opportunity permits. During the first three quarters of 1942, 72 new Hydrographic Office nautical charts were published.

The Coast and Geodetic Survey published a number of new charts of ocean areas, and for greater facility in position-finding by sonic instruments, continued its policy of showing more

depth curves on its series of coast charts.

Such parts of the ordinary research program of the Woods Hole Oceanographic Institution as could be continued involved mainly biological problems for which the observations had already been secured.

During the year the vessel of the Scripps Institution of Oceanography, *E. W. Scripps*, has been used exclusively for research related to the war. Examination of biological samples obtained on previous cruises has to some extent been continued and experimental work has been conducted. A study of the possible importance of bacteria in recent sediments to the formation of petroleum has been started by means of a grant from the American Petroleum Institute.

#### TIDE OBSERVATIONS

Seventy-nine tide stations were maintained in operation by the Coast and Geodetic Survey for the purpose of hydrographic control, tidal research, and the determination of changes in sea level. Of these stations, 14 were maintained in Central and South America through participation in the program of the State Department for cooperation with the American Republics. Under this program valuable tidal data are being collected for the ports of Tampico, Guaymas, and Salina Cruz, Mexico; La Union, El Salvador; Puntarenas, Costa Rica; La Guaira, Venezuela; Buenaventura, Colombia; Guayaquil, Ecuador; Talara, Callao, and Matarani, Peru; and Valparaiso, Puerto Montt, and Punta Arenas, Chile.

#### PETERS-ROBERTS RADIO CURRENT METER

Experimental models of a new type of current meter were brought to a satisfactory state of development during the year. After months of experimenting, two officers on the Coast and Geodetic Survey Ship *Explorer*, developed a current meter (Peters-Roberts Radio Current Meter) which not only measures the velocity and direction of the current but transmits the data by radio.

This ingenious development is quite new and is a radical departure from old methods. A powerful magnet is mounted in a streamlined casing which streams with the current set at all times. By revolution about an axis concentric with that of rotation of the magnet, an electric contact is made successively with one point attached to the magnet and one point on the casing. The electric contact mechanism is revolved by force of the current on the screw impeller and the time of revolution is a measure of the velocity of the current. The direction of the current is indicated by the radial relation of the two contacts in one revolution cycle.

The meter is suspended from a streamlined buoy in which a small radio transmitter is installed. When the electric contacts close, radio signals are broadcast by this transmitter which is somewhat similar to that used in radio acoustic ranging for position determination on offshore surveys. These radio signals are recorded on a chronograph tape, such as used in R.A.R., on board the mother ship.

When the first experimental meter was used by the *Explorer*, another vessel engaged on surveys 250 miles distant received the broadcast and recorded the observations on its R.A.R. chronograph.

This radio current buoy can be anchored on station in depths up to 1,500 fathoms and left to broadcast its observations. A number of buoys, as many as 10 or 15, can be operated simultaneously in an area and the characteristic signal of each received in order and recorded by a shore or ship radio receiving station within receptive range.

In a current survey project of the Coast and Geodetic Survey in the spring of 1942, 12 stations were occupied using three of these instruments. At one station, a series of 20 days' observations was obtained.

#### THE AMERICAN GEOPHYSICAL UNION

The twenty-third annual meeting was held at George Washington Uni-

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

versity, Washington, D. C. on April 3-4. The papers presented before the Section of Oceanography covered a resumé of the activities during the year of the various Federal and educational institutions engaged in oceanographic work, together with papers on related problems in shore-processes and oceanography; oceanography of the Caribbean; ocea-

nography of the Peruvian coastal current; and Pacific campaign of the Schooner *Askoy*—Darien, Colombia, Ecuador. These papers are published in the *Transactions of the American Geophysical Union* for 1942 and may be obtained from the National Research Council of the National Academy of Sciences, Washington, D. C.

## PERIODICAL PUBLICATIONS

### *American Mineralogist*

U. S. Geological Survey, Washington, D. C.

### *Economic Geography*

Clark University, Worcester, Mass.

### *Economic Geology*

University of Illinois, Urbana, Ill.

### *Geographical Review*

American Geographical Society, Broadway and 156th Street, New York City.

### *Journal of Geography*

3333 Elston Ave., Chicago.

### *Journal of Geology*

5750 Ellis Ave., Chicago.

### *Journal of Geomorphology*

Columbia University, New York City.

### *Journal of Terrestrial Magnetism and Atmospheric Electricity*

Johns Hopkins Press, Baltimore, Md.

### *Mining and Metallurgy*

29 West 39th Street, New York City.

### *National Geographic Magazine*

National Geographic Society, Washington, D. C.

### *Nature Magazine*

295 Madison Ave., New York City.

### *Petroleum World*

412 West Sixth Street, Los Angeles, Calif.

### *Transactions of the American Geophysical Union*

5241 Broad Branch Road, N.W., Washington, D. C.

### *Travel*

116 East 16th Street, New York City.

### *Travel America Guide*

71 Vanderbilt Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 1852, Tulsa, Okla.

AMERICAN GEOGRAPHICAL SOCIETY, Broadway at 156th St., New York City.

AMERICAN METEOROLOGICAL SOCIETY, Blue Hill Observatory, Milton, Mass.

APPALACHIAN MOUNTAIN CLUB, 5 Joy St., Boston, Mass.

ASSOCIATION OF AMERICAN GEOGRAPHERS, University of Michigan, Ann Arbor, Mich.

EXPLORER'S CLUB, 10 W. 72nd St., New York City.

GEOLOGICAL SOCIETY OF AMERICA, 419 W. 117th St., New York City.

NATIONAL GEOGRAPHIC SOCIETY, 1146 16th St., Washington, D. C.

OCEANOGRAPHIC LABORATORIES, University of Washington, Seattle.

SCRIPPS INSTITUTION OF OCEANOGRAPHY, La Jolla, Calif.

SEISMOLOGICAL SOCIETY OF AMERICA, University of California, Berkeley, Calif.

WOODS HOLE OCEANOGRAPHIC INSTITUTE, Woods Hole, Mass.



# DIVISION XXI

## CHEMISTRY AND PHYSICS

### PHYSICAL CHEMISTRY

By HUGH S. TAYLOR  
PROFESSOR, PRINCETON UNIVERSITY

#### GENERAL

The entry of the United States into active participation in the Second World War effectively curtailed the already rapidly dwindling volume of published research in this field. The availability of journals of scientific research has reached a new low and, during the year, was confined almost exclusively to those originating here and in England. Much that is new, but of national interest in the prosecution of the war, will remain unpublished until peace is achieved. Little that is of interest is being published from the principal research centers in these countries, and, inside Europe, the volume of such research must be relatively less than ever before.

#### BOND STRENGTHS IN HYDROCARBONS

Data of fundamental and far-reaching significance, in a direction first indicated here some years ago, have been obtained with a precision which forecasts a broad extension in the future to more complex systems. Kistiakowsky and his coworkers (*J. Chem. Phys.*, 10, 305, 653, 1942) have determined the carbon-hydrogen bond strength between methyl and hydrogen in methane. They find the value  $102 \pm 1$  kilocalories and  $98 \pm 2$  between ethyl and hydrogen in ethane. These data lead to estimates of the carbon-carbon bond strengths in ethane, propane, and normal butane, the three simplest paraffin

straight chain hydrocarbons containing carbon-carbon bonds. That in ethane,  $\text{H}_3\text{C}-\text{CH}_3$ , has a value  $85.6 \pm 2.3$  kilocalories; that between ethyl and methyl in propane,  $83.8 \pm 3.3$  kilocalories; and that between two ethyls in normal butane,  $82.4 \pm 4.5$  kilocalories. Each addition of a  $\text{CH}_2$  group to the hydrocarbon chain appears to lower the bond strength about 1.5 kilocalories. Hitherto, as a first approximation, these several bonds of carbon-hydrogen and carbon-carbon were presumed constant independent of the compound in which they were found.

#### FREE RADICALS FROM HYDROCARBON DECOMPOSITION

A variety of evidence, both direct and inductive, has led to the conclusion that hydrocarbons and other organic molecules decompose into radical fragments by thermal and photochemical activation. A very direct proof of this has been obtained by Eltenton (*J. Chem. Phys.*, 10, 403, 1942) using the mass spectrograph to demonstrate the existence of these radicals by means of their masses. The research serves to clarify certain disputed points. Methane ( $\text{CH}_4$ ) appears to break exclusively into methyl ( $\text{CH}_3$ ) and hydrogen ( $\text{H}$ ) and not at all into methylene ( $\text{CH}_2$ ) and  $\text{H}_2$ . Methylene radicals do, however, appear when diazomethane ( $\text{CH}_2=\text{N}=\text{NCH}_2$ ) is decomposed. Methyl radicals pick up hydrogen readily from propylene ( $\text{C}_3\text{H}_6$ ), less easily

from ethane, and least readily from ethylene. This constitutes further evidence of different carbon-hydrogen bond strengths in different hydrocarbons. The mass spectrograph indicates that the vinyl radical ( $\text{CH}_2 = \text{CH}\cdot$ ) which should result from propylene by splitting off a methyl radical is so reactive that it is never found in the mass spectrograph under the working conditions, whereas the allyl radical ( $\text{CH}_2 = \text{CH}\cdot\text{CH}_2\cdot$ ) which results from removing a hydrogen atom from propylene is readily detectable.

Steacie and his collaborators in Canada continue to issue their important and careful studies of the reactivities of hydrocarbons when they undergo photosensitized decomposition with photo-excited atoms of zinc, cadmium, and mercury. These detailed studies are at the same time models of photochemical technique and furnish data from which the energetics of elementary reactions involving radicals and molecules in hydrocarbon systems can be deduced. (See, for example, *Chem. Reviews*, Oct. 1942).

#### **FREEZING AND COMPRESSION AT SUPER-PRESSURES**

Bridgman has recently published a note (*J. Chem. Phys.*, 10, 794, 1942) extending from the more usual limit of previous high pressure measurement, 12,000 atmospheres, to a new high of 50,000 atmospheres, and data on the freezing and compressibilities of substances ordinarily liquid. The measurements cover compressions of both liquid and solid forms of the same substance. The materials studied include chloroform, chlorobenzene, water, butyl alcohol, carbon disulfide, methylene chloride, normal propyl bromide, ethyl bromide and ethyl alcohol. In the new pressure range the entropy difference between solid and liquid increases for five of the substances studied, for three of these very considerably. In the lower pressure range studied previously the entropy change normally decreased. One consequence of this is that the tendency of the specific heat of the

liquid to be greater than that of the solid is strengthened as the pressure and temperature increase along the melting curve. Sub-cooling of the liquid becomes considerably more pronounced in the higher pressure ranges. Melting, on the other hand, begins immediately on carrying the solid back across the melting line. It is of interest to mention that at these high pressures ice (Modification VI) can exist at temperatures above the boiling point of water at atmospheric pressure, the melting point being  $102.8^\circ \text{C.}$  at 25,000 atmospheres and  $192.3^\circ \text{C.}$  at 40,000 atmospheres.

#### **MECHANISM AND VELOCITY OF ORGANIC REACTIONS IN LIQUID SYSTEMS**

Classical physical chemistry in the latter half of the nineteenth century owed much of its development to studies of the velocity of organic reactions such as the inversion of sugar, the splitting of esters by water in acid or alkaline media to alcohols and acids or their corresponding salts. Much was learned concerning acid strength, ionization, pH, and the like from such studies of the medium in which the reaction was achieved. Recent studies have focused attention on the actual organic reactions achieved, and these studies have shown that even those reactions, formerly considered to be among the simplest in organic chemistry, may pursue any of several mechanisms. It is these varying mechanisms which are at present the object of searching study. The ester molecule can be represented by the general formula  $\text{RCOOR}^1$  and the split that occurs has been shown to occur in two ways to yield  $\text{RCO}$  and  $\text{OR}^1$ , on the one hand, and  $\text{RCOO}$  and  $\text{R}^1$ , on the other hand, the elements of water,  $\text{H}$  and  $\text{OH}$ , adding to give two sets of products  $\text{RCOOH}$  and  $\text{HOR}^1$ . Special methods have been developed to determine which type of splitting occurs under a given set of conditions, and it has been decisively shown that the experimental conditions determine which occurs. A wide variety of substitution reactions in organic chem-

istry, for example, the replacement of chlorine by iodine, ammonia or hydroxyl groups in organic compounds, reveal similar dualities of mechanism.

The advances which are being made and which were summarized in a general discussion held by the Faraday Society in London a year ago (*Trans., Faraday Soc.*, vol. 37, December 1941) spring from the "discovery of the physical nature of chemical combination . . . this was a signal, indeed it was a motive and a means, for a scientific revival in Organic Chemistry . . . Schools of research multiplied whose clear aim was and is, to establish Organic Chemistry as a physical science, by elucidating its processes in physical terms, and thus building up a body of theory by means of which those processes can be understood and controlled. . . . The contributors have had before them the elevation of Organic Chemistry to a physical status by the supersession of its old empiricisms and recipes by physical understanding and exact technique." The goal, thus stated by one of the leading workers in the field, Prof. C. K. Ingold of London University, is illustrative of the way in which physical chemistry originally concerned almost exclusively with inorganic chemical problems is now permeating the immense field of organic chemistry.

#### POLYMERIZATION AND SYNTHETIC RUBBER

The development of the physical approach to essentially organic chemical reactions has become a major concern of the country within the past 12 months by reason of the increasing needs for synthetic rubber materials to replace natural supplies cut off by Japanese conquests. The general public has picked up the nomenclature of synthetic rubber constituents, knows of shortages in butadiene and styrene. It is vaguely aware that these constituents are to be combined to form rubber by processes of reaction termed polymerizations but is for the most part unaware that these processes demand to an abnormal degree that "physical un-

derstanding and exact technique" of which Professor Ingold spoke.

The successful annual production of more than 1,000,000 tons of synthetic Buna-S tire stock is dependent, to a degree not hitherto normal in industrial operations, on the strict control of physical chemical factors. The constituent butadiene and styrene must be brought into a milk-like emulsion (a task in itself were we to accept the old adage that oil and water do not mix); the emulsion must be stabilized and then induced to react, not too rapidly or hard non-rubbery products result, not too slowly or the polymerization will give merely viscous oils; temperature regulation is exacting, rate of stirring important, the use of modifiers and restrainers so adjusted that a product may result on which the army, the production army, and still later the general public can roll along. The problems of synthetic rubber production are among the severest and most exacting that have faced industrialists hitherto, and these must rely in large measure on the physical chemist for successful solution of the problem.

It is not surprising, therefore, that in England and here in America during 1942 a notable amount of attention was devoted to the physico-chemical aspects of the rubber problem. At a general discussion held by the Faraday Society in May the structure and reactions of rubber were reviewed. The papers dealt principally with the properties of natural rubber but the broad principles of treatment are applicable to synthetic rubbers also. The work reveals how the approach to the problems of rubber properties is tending to the thermodynamic and statistical approaches which received so much attention recently in the field of high molecular weight polymeric materials including plastics. Solubility, swelling, permeability to gases, elastic extension, viscous flow, the effect of cross-linking between the long chain-like linear molecules and of plasticisers on elastic properties are all problems which can with advantage be treated by the thermodynamic-statistical approach

## PHYSICS

developed in recent years for physical and chemical rate processes. X-ray studies of rubber and gutta percha have defined the nature of the chain structure and have been used also to identify impurities present in the natural rubber.

At the meeting of the American Chemical Society in Buffalo in September one of the most successful meetings held was that of the Division of Rubber Chemistry. The November issue of *Industrial and Engineering Chemistry* is devoted almost exclusively to these papers. They cover a wide field with comprehensive surveys of processing and

properties of the various types of synthetic products now being produced or developed in this country. The whole issue is an index of the immense volume of scientific work involved in the rubber program. At each stage, in the production of raw materials, including butadiene, styrene, iso-butylene, chlorbutadiene, vinyl chloride, and organic polysulfides, in the polymerization reactions proper, in the compounding and protection against deterioration, physical chemists face a complex of fascinating, fundamental scientific problems which must yield to the intensity of effort now directed to their solution.

## PHYSICS

BY THOMAS H. OSGOOD

PROFESSOR, MICHIGAN STATE COLLEGE

### PHYSICS, PHYSICISTS, AND WAR

The expansion of technical research and study made necessary by the war has caused a serious shortage of skilled manpower. Nowhere is that shortage more acute than in the field of physics. Physicists can not be trained quickly, and the majority of people, however willing, can not be trained as physicists at all. According to estimates made recently by W. L. Bragg in England, about one good physicist is produced each year per million of population, and there is no reason to believe that the proportion should be very different in the United States. Intelligent people, who can be trained adequately in one narrow field of technical specialization, are much more numerous. One problem is to find and train enough of these.

Several factors contribute to the present emergency in physics. In the first place, there is a shortage of physicists needed for carrying on research on war problems. Universities and colleges were early stripped of all the men they could spare without interfering with the actual mechanics of teaching. Academic research virtually came to a standstill. Now, most

colleges report increases in enrollment in physics, which create a new shortage of teachers, with no replacements available. There will probably be ever-growing enrollments in technical subjects in the colleges as soon as the induction of younger groups gains momentum. In the long run, it is just as necessary to keep on training potential engineers, physicists, doctors, dentists, and the like, as it is to solve immediately some of the technical problems confronting the experts of the armed forces. Short courses, designed to develop operational skills like those required for radio and laboratory testing, will further tax college instructors. The shortage extends even into the high schools, some of whose teachers have left for more remunerative wartime positions. It goes without saying that the pressure of production keeps industrial physicists fully occupied with important problems connected with the manufacture of armament. The whole situation has been described by some authorities as critical.

To meet these difficulties, three plans must be worked out. One, to train in narrow technical fields, whether in or out of the armed forces,



enough individuals to operate and maintain as many devices as are manufactured; another, to ensure that the already existing supply of skilled physicists is used to the best advantage; a third, to recruit additional personnel for future training in specialized fields. These are all under way, in one form or another, and information regarding them may be obtained from The American Institute of Physics, 175 Fifth Avenue, New York, which has taken the initiative in these matters. For example, in Indiana, and perhaps elsewhere, tests were given to high school students to determine what proportion of them had the necessary aptitude for studies in physics. Tests also were given there to women college students to determine how many could reasonably be trained to be competent instructors in simple technical courses. Thus simultaneous estimates of personnel available as instructors and as students in training programs are being gathered.

Physicists have the honor of being the first to be represented by a National Committee, authorized by the Director of Selective Service to review affidavits for occupational classification. This Committee is empowered to make recommendations to local Draft Boards, but not to control their decisions.

The progress of physics in 1942, as summarized below, consists of a catalogue of the tag ends of research programmes initiated several years ago. Very little new research is to be found in the recent literature. Much current research in pure and applied physics is, for obvious reasons, of a very confidential nature.

### THERMAL DIFFUSION

Several methods of separating isotopes have been tried in the last 20 years, many achieving partial success (J. Kendall, *Nature*, 150, 136). Perhaps the most promising at the moment is that involving thermal diffusion. This is not the same effect as the ordinary diffusion process which is described in elementary accounts of the kinetic theory of gases and

which occurs and is manifest in a gas mixture maintained at a uniform temperature. By virtue of the process of ordinary diffusion a local concentration of a foreign gas, introduced artificially into a gas-filled chamber, will distribute itself uniformly within the limits of statistical error throughout the whole volume, merely because all the molecules are moving. On the other hand, thermal diffusion shows itself in a mixture of different kinds of particles which is kept at a non-uniform temperature. For the sake of simplicity, let the gas mixture under consideration be confined between two vertical parallel walls H and C, a short distance apart. Let H be heated and C cooled. Then thermal diffusion creates a concentration gradient perpendicular to H and C, the lighter particles being the more numerous near the wall H. Strong convection currents then come into play, carrying the abnormal concentration of light particles upwards and the abnormal concentration of heavy particles downwards. Thus, after a time, the upper part of the enclosure will be over-populated with lighter particles, the lower part with heavier particles, whence these 'fractions' can be drawn off by appropriate means.

In estimating the success with which the separation of a binary mixture of molecules of dissimilar masses may be carried out it is customary to calculate (R. C. Jones, *Phys. Rev.* 58, 111) the value of a thermal diffusion factor which connects the coefficient of ordinary diffusion with the coefficient of thermal diffusion and with the concentrations of the two types of particles whose separation is desired. The expression representing this factor involves a function which depends on the law of force which is assumed to be operative between the particles. For certain types of molecules, no separation by thermal diffusion is possible. For others, concentration gradients may be set up as just described, or they may be reversed in direction. The simplest available derivation of the general shape of the function representing the diffusion factor is to be found in a

note by Frankel (*Phys. Rev.* 57, 661) who employs dimensional analysis for the purpose. The factor has also been interpreted in a somewhat different fashion by Grew (*Nature*, 150, 320) whose experiments show the reversal of sign in the separation of mixtures of varying proportions of ammonia and neon.

In spite of the many difficulties of the theory, the process of thermal diffusion is in practice an effective separator of isotopes. Clusius and Dickel, whose work is mainly responsible for the renewed attention which is now being paid to this subject, used a multiple-tube unit with an effective length of 36 meters and obtained from ordinary hydrogen chloride light and heavy samples of chlorine which were about 99.5 per cent pure. Since the method is applicable also to liquids it will no doubt be used by those who seek to develop practical sources of atomic energy in an effort to separate the priceless 235 isotope from ordinary uranium.

#### NUCLEAR STRUCTURE

Experiments of half a dozen years ago showed that the scattering of protons by hydrogen, that is by other protons, was far from what could be expected from a simple Coulomb law of force. The scattering was such as might occur if the repulsive Coulomb force, operative at comparatively large distances, changed rather suddenly into a strong attractive force, when the distance between the particles was of the order of  $10^{-13}$  cm. Now there must be some critical distance at which these two types of force compete, as it were, for control of the scattering process. Should an incident particle pass just outside this critical distance, it will be scattered normally by the Coulomb field; but should it pass just inside, it will be whipped around the target nucleus and will suffer a deflection which differs considerably from that which occurred in the former case. There will, therefore, be a scarcity of scattered particles at some definite angle with respect to the incident beam, for some particular energy of incidence,

which must, however, be large enough to bring true nuclear forces into play. This minimum in the scattering curve has been shown to lie at  $45^\circ$  for 400 kev protons, but until Ragan, Kanne and Taschek (*Phys. Rev.* 60, 628) studied the region in detail the available information was only approximate.

The reasons for choosing this range of energy for particular study are as follows. On either side of the minimum referred to above, that is, about 300 kev, or about 500 kev, the scattering is particularly sensitive to the shape of the "potential well" which is chosen to represent the proton. Hence, an accurate determination of the amount of scattering in one or both of these neighborhoods will give information from which a correct choice can be made of the well parameters. The new work from the University of Wisconsin, even though difficult to perform with the necessary accuracy because of the low penetrating and ionizing power of the low-energy protons, shows that a potential well 10.5 Mev deep and  $2e^2/mc^2$  across will fit the observed data. This is, however, not the only type of potential well which gives satisfactory agreement with experiment, but the first attempts are naturally made with the simplest forms of well which offer some prospect of success.

When the problem concerns scattering by very complicated nuclei, a much more general point of view has to be taken. No longer can the details of the process be considered separately; a statistical or thermodynamic treatment is required, in which the heavy scattering nucleus is considered to possess some of the attributes of a drop of liquid. Such a nuclear model has already had some success in the interpretation of the results of nuclear fission. When it is applied to the scattering of neutrons by lead, an energy spectrum of the inelastically scattered neutrons can be predicted. Several years ago, Weisskopf predicted that fast neutrons, all of one velocity, incident upon a heavy element would be scat-

tered inelastically in such a way that the neutrons, after scattering, should show a Maxwellian distribution of velocities. This point has been tested by Dunlap and Little (*Phys. Rev.* 60, 693) using neutrons from the D-D reaction with an energy about 2.5 Mev. The distribution of scattered neutrons turns out not to be Maxwellian, but to have a much greater proportion of high-energy particles than a classical distribution would have. The reason for expecting a Maxwellian distribution is that the moving neutron is presumed to be captured temporarily by the scattering nucleus, then ejected like a molecule evaporating from a warm drop of liquid. It seems more likely now that the re-emission of a neutron takes place, or may take place, before 'thermal' equilibrium has been attained in the nucleus, and that the scattered neutron emerges from the temporary nucleus at some point where a fortuitous concentration of kinetic energy still exists.

#### COSMIC RAYS

The results of a great many experiments dealing with the passage of cosmic rays through the atmosphere have been reported, mainly by Rossi and Greisen (*Phys. Rev.* 61, 121, 212, 675). These deal with the various complicated processes by which the energy of the rays is gradually frittered away, but they must be passed over to give room for an account of a new hypothesis of the origin of the rays, published by Millikan, Neher, and Pickering (*Phys. Rev.* 61, 397).

They point out that the only acceptable origin of stellar energy is the transformation of mass into other forms of energy. Stellar energy is apparently adequately provided for by assuming, inside stars, the synthesis of simple atoms into more complex ones, but such a process does not give particle or photon energies as large as are observed in cosmic ray experiments. It is, therefore, very satisfactory to know by direct observation that cosmic rays do not come from the stars but from a much more uniform distribution of sources

throughout the nearby universe. Millikan, Neher, and Pickering assume that in interstellar space complete atomic annihilation is going on. The energy thus released is adequate to account for the observed cosmic ray energy, and is much larger than that available from the synthesis of heavy atoms from simpler ones. The spectrum of the radiation thus generated in space will be governed by the total energies of the atoms which are most frequently found there, and here astrophysical evidence shows that the commonest atoms are hydrogen, helium, carbon, nitrogen, oxygen, and silicon. These occur in the approximate ratios 100, 10, 1, 1, 1, 1, respectively.

Taking each of these atoms in turn, the three authors show that the magnetic fields of the sun and earth would debar radiation due to the annihilation of hydrogen from reaching the earth's surface, but that radiation from the other five annihilation processes would be able to reach the earth in certain localities. The less energetic rays will be able to reach low altitudes in the earth's atmosphere only at high magnetic latitudes, while the most energetic ones will penetrate to sea level at the geomagnetic equator. The five species of atoms, helium, carbon, oxygen, nitrogen, and silicon give rise to radiations of energy approximately 2,000,000, 000 electron volts, 6 Bev, 7 Bev, 8 Bev, and 14 Bev respectively. In proceeding northward or southward at a fixed altitude from the magnetic equator, the cosmic ray intensity, due only to the 14 Bev component at the equator, will be enhanced by the appearance and detection of the less energetic components, each coming in at a fairly definite magnetic latitude. The 8 Bev radiation begins to be detected, for instance, at a magnetic latitude of 33° or 34°, but is not found between this and the equator. Hence the overall result is a series of steps or plateaus in the cosmic ray intensity curve.

At the moment, it is safe to say that the predicted energy in each band is not in contradiction to the



observed energy, but quantitative estimates are still so rough that a thorough test of the theory is hardly possible on this basis. What the general reader would welcome would be an interpretation of this hypothesis to show its relation to other experiments concerning the nature of the primary radiation. These other experiments imply that most of the incoming radiation consists of protons. The experiments of Millikan, Neher, and Pickering appear neither to confirm nor deny the proton hypothesis.

### X-RAYS

The focus of interest, as it was a year ago, was the occurrence of anomalous diffuse spots in the diffraction patterns of crystals. Raman and his school in India still maintain that they are due to a quantum phenomenon analogous to the optical Raman effect, while the majority of workers in other English-speaking countries believe that a purely classical explanation suffices. Out of this work something very useful is now emerging. As Lonsdale hinted nearly two years ago, the diffuse spots are very closely bound up with the elastic properties of the crystal. The original theory of Waller has been interpreted and applied by Jahn (*Proc. Roy. Soc. A*, 179, 320) in such a way as to relate the appearance and size of the spots to the elastic constants of the crystal. In general, the more inelastic the crystal, the bigger and fuzzier the spots. The pattern for tungsten, for example, which is highly elastic, is much tidier and less intense than that for sodium or lead (K. Lonsdale and H. Smith, *Nature*, 149, 21). The diffuse spots of tungsten, indeed, appear to be only one thirtieth as strong as those of sodium, while those for lead are half as intense as those of sodium. These values are in agreement with estimates made from Jahn's calculations. This is by far the most important result which has emerged from these studies to date, and it promises to be of very great practical importance in the future. It will allow the elastic constants of a

crystal to be determined without straining it.

### ACTIVE NITROGEN

At last a clear and satisfactory picture of the behavior of active nitrogen has been reached after 42 years of experimental investigation. The credit must go jointly to Lord Rayleigh (*Proc. Roy. Soc. A*, 180, 123) for an admirable series of experiments, and to Debeau (*Phys. Rev.* 61, 668) for supplying the finishing touches in terms of the energy levels of nitrogen molecules. Rayleigh first measured the luminosity of a known quantity of active nitrogen at intervals of a few seconds during its initial rapid decay, and from the data arrived at the integrated light emitted per  $\text{cm}^3$  of nitrogen under the most favorable conditions. This turned out to be 3.18 candle-sec. per  $\text{cm}^3$  under standard temperature and pressure. Thence, knowing approximately the average wavelength of the emitted light, it was possible to calculate how many quanta were emitted per molecule of nitrogen under the conditions of the experiment. The answer was  $1.3 \times 10^{-3}$ .

Rayleigh also noticed that pieces of sheet gold, silver, copper, or platinum could be made red hot or even melted by immersion in active nitrogen, and he used this property to make an estimate of the amount of energy which must be abstracted from the gas in the process. The results are startling. In a "continuous flow" experiment, in which the active gas passed in a stream from the site of the discharge to another bulb containing the small sheet of metal, it was found that the power radiated by the hot metal was such that it was necessary to assume that every molecule which passed through the discharge carried some 5 or 10 electron volts to the metal foil. This might conceivably be interpreted as implying that the energy is carried by dissociated atoms which associate again to  $\text{N}_2$  at the surface of the foil, but only on the assumption that every molecule was dissociated. At first



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sight this seems so unlikely that it might be ruled out of consideration. It would follow that the luminous energy radiated as the familiar afterglow, under favorable conditions, represents only a tiny fraction of the total energy transported by the gas to the metal.

Nearly all these details of behavior now receive an explanation in a paper by Debeau, who learned by repeating an old observation of J. J. Thomson's that nitrogen is, practically, completely dissociated in the electrodeless discharge. Once this is established, it is possible to construct a very definite picture of the process of formation and decay. After the dissociation, according to Debeau,

the first stage is the formation of a "collision complex" which may then react with another molecule to form nitrogen in the  $B^3\Pi$  excited state with 9.84 electron volts of energy, which subsequently degenerates into the  $A^3\Sigma$  metastable state with emission of afterglow radiation. Alternatively, the collision complex may descend directly to the  $^1\Sigma$  state, the ground state of the nitrogen molecule, with liberation of energy as in Rayleigh's experiments on the heating of metal foils. This latter is much the more probable course of events, so that the heating phenomenon is a parallel and independent rather than a previous or subsequent step in the life of active nitrogen.

## ORGANIC AND INORGANIC CHEMISTRY

By C. M. SUTER

WINTHROP CHEMICAL COMPANY, INC.

### GENERAL

Although the publication of the results of research have been subject to censorship in order to withhold information valuable in warfare from the enemy, the volume of publications in chemistry has not yet been seriously diminished. However, much of the work published during 1942 was completed before Pearl Harbor and the decrease in size of our journals will be much more in evidence in 1943.

### BRANCHED CHAIN HYDROCARBONS

The majority of the known high-molecular-weight paraffin hydrocarbons, that is, those containing more than 20 carbons, have the carbon atoms linked in a straight chain. Whitmore and co-workers (Pennsylvania State College) have now prepared a variety of branched chain hydrocarbons in which branches containing four or more carbons are attached at various places to the usual long carbon chains. In one investigation, butyl, hexyl, octyl, and decyl derivatives of docosane, a 22 carbon

straight-chained hydrocarbon, were prepared in high purity and their physical properties determined. Investigations of this type are of interest in arriving at some conclusion regarding the chemical composition of lubricating oils. These oils are exceedingly complex mixtures from which isolation of pure compounds is exceptionally difficult and hence a comparison with synthetic materials becomes desirable.

### SYNTHETIC RUBBER

In the development of the synthetic rubber program the chemical industry has undertaken a tremendous task. The three fundamental processes involved in making Buna S, the most important of the synthetic rubbers, are the production of butadiene, the manufacture of styrene, and the polymerization process itself. According to the report of the Baruch Committee the butadiene will be made in at least five different ways. The two most important of these makes use of butylene obtained from the cracking process and alcohol derived either from petroleum or

through fermentation. The remainder of the butadiene must come from the cracking of butane or of gas oil and heavy oils. One of the difficult problems in the production of butadiene is its isolation from other hydrocarbons which distil at nearly the same temperature, that is, in the neighborhood of  $0^{\circ}\text{C}$ . Various methods of removing the butadiene or its contaminants from a mixture of the gases present in the crude product have been proposed, and undoubtedly several are being used.

The production of styrene involves the combination of ethylene with benzene which may be brought about under a variety of conditions. The resulting ethylbenzene is then thermally decomposed with the formation of styrene. Thus in the preparation of styrene one of the essential materials is obtained from coal tar and the other from petroleum or alcohol.

A variety of other synthetic rubbers will be produced on a greater or lesser scale. Most of these are not suitable for high grade tires but can be used in replacing rubber in many other types of material. It is interesting to note that butyl rubber, of which much has been reported in the daily press, is made from isobutylene obtained from the cracking process, and a small amount of isoprene. Isoprene is the fundamental unit of natural rubber.

#### ACRYLONITRILE

One of the compounds needed in large quantity for the synthesis of one of the synthetic rubbers is acrylonitrile, hence this compound has become readily available for chemical investigation. Bruson (Röhm and Haas) has undertaken a comprehensive study of the condensation reactions of acrylonitrile with compounds containing an active hydrogen. It was found that in the presence of strong bases, such as quaternary ammonium hydroxides, reaction occurs with such compounds as fluorene, indene, and anthrone, active hydrogen atoms being replaced by cyanoethyl groups. By these reactions many

compounds hitherto unavailable can now be readily obtained.

#### CADINENE

The most widely distributed of the sesquiterpenes, cadinene, is readily obtainable from oil of cade and oil of cubebs. Campbell and Soffer (Harvard University) have further investigated this interesting compound and have finally determined its structure. Previously the positions of the two double bonds in the molecule were in question. It has now been shown that these occupy the 1, 2 and 6, 7-positions.

#### CONSTITUENTS OF CATNIP OIL

A further investigation by McElvain, Walters, and Bright (University of Wisconsin) of the components of catnip oil has demonstrated that the alkali insoluble portion of the oil contains  $\beta$ -caryophyllene, a nepetal lactone, and nepetalic anhydride. The lactone is the component of the oil which is responsible for the attractiveness of the catnip plant to members of the cat family.

The interest of lions in the lactone is much the same as that of the ordinary house cat. To quote the authors: "They can be aroused immediately from a state of lethargy to one of intense excitement by the odor of the lactone and will follow the odor to its source. When they acquire the material with the odor they become ludicrously playful and their main interest seems to be to get the odiferous material transferred to their fur. They show no desire to eat the material nor is there any evidence of sexual stimulation."

#### INSECTICIDE IN SOUTHERN PRICKLY ASH

It was reported recently by LaForge, Haller and Sullivan (U. S. Department of Agriculture) that a petroleum ether extract obtained from the bark of southern prickly ash contains a material which is toxic to house flies. However, the investigation did not lead to the isolation of a pure compound, and work is in pro-

gress on the separation of the active component of the extract.

#### NEW REACTIONS

Some time ago it was found by Aston and co-workers (Pennsylvania State College) that the action of sodium alcoholate on an  $\alpha$ -bromo secondary alkyl ketone unexpectedly gave the ester of a tri-substituted acid. Further investigation has confirmed the earlier postulate that the first step in this reaction is the addition of an alcoholate to the keto group followed by formation of an ethylene oxide ring. This then goes over to the ester of the acid with the rearrangement of an alkyl group. This rearrangement occurs only when a normal replacement reaction is hindered by the structure of the molecule.

Kharasch and Brown (University of Chicago) have continued their study of photochemical and peroxide-catalyzed reactions. It has now been shown that the action of light on oxalyl chloride in the presence of a paraffin hydrocarbon yields an acid chloride, a hydrogen being replaced by the acid-chloride group. Interestingly enough certain organic peroxides bring about the same reaction in the dark. It was not many years ago that paraffin hydrocarbons were considered to be relatively inert substances. This carboxylation adds one more reaction to the rapidly growing list of chemical changes which they undergo.

The reaction of oxalyl chloride with unsaturated hydrocarbons does not occur through the action of light or peroxides. However, substitution of a hydrogen by an acid chloride group does occur by simple heating of a variety of olefins with the oxalyl chloride. The reaction of phenylacetylene is unusual in that the product is  $\beta$ -chlorocinnamyl chloride, carbon monoxide being evolved. Many simple olefins do not react under the conditions indicated. These include  $\alpha$ -olefins, stilbene, and cyclohexene.

#### REACTION MECHANISM STUDIES

The availability of radioactive car-

bon and hydrogen makes it possible to determine the mechanism of certain reactions which otherwise could not be investigated. Allen and Rubin (University of California) have developed a rapid method for the synthesis of fumaric acid and then have studied its oxidation with permanganate. They found that the formic acid produced in the oxidation comes exclusively from the carbon atoms not present as carboxyl groups in the fumaric acid. It was further found that the hydrogen attached to carbon in the fumaric acid does exchange rapidly with hydrogen ions during the oxidation process. These facts and others already known indicate that during the oxidation the carboxyl groups are eliminated as carbon dioxide.

#### CATALYTIC REACTIONS

The study of the effect of new catalysts in bringing about organic reactions continues. Ipatieff and Haensel (Universal Oil Products Co. and Northwestern University) have studied the behavior of copper-alumina catalysts in the hydrogenation of ketones to alcohols and alkylbenzenes. It was found that at 115° butyrophene and valerophene hydrogenated with more difficulty than ketones with a shorter or longer alkyl group. When the temperature of the reaction was raised to as high as 150° to 180° the carbinols were converted to the alkylbenzenes.

In another investigation the condensation of secondary and primary alcohols with alicyclic ketones was studied. Reaction occurred over a catalyst having both dehydrogenating and dehydrating properties. The products were always higher-molecular-weight ketones formed by the elimination of a molecule of water.

#### HYDROGENATION OF BIPHENYL AND PHENANTHRENE DERIVATIVES

Linstead and co-workers (Harvard University) report in a series of articles the results of a comprehensive investigation on the nature of the compounds produced when vari-

ous aromatic compounds are hydrogenated. A summary of existing knowledge indicates that the stereoisomers produced are largely of the *cis* configuration in compounds containing one benzene ring. In the new work nine derivatives of diphenic acid and phenanthrene all hydrogenate *cis* and *syn*. These results were explained by three hypotheses: (a) the hydrogen atoms add to only one side of the molecule during a single period of adsorption on the catalyst; (b) the manner in which the molecule is adsorbed on the catalyst is determined by hindrance between the catalyst and the substrate; (c) the molecules of open chain derivatives of diphenic acid are in a coiled condition during hydrogenation. These investigations will prove particularly useful in the investigation and determination of the structures of the sterols.

#### HYDROGENATION OF COTTON HULL FIBER

The action of hydrogen at high temperatures and pressures upon cellulose from cotton hulls has been investigated by Henze, Allen, and Wyatt (University of Texas). In a dilute alkaline solution there resulted a mixture of gaseous, liquid, and semi-solid products. The gaseous material was chiefly methane mixed with some carbon dioxide. Material staying in solution consisted of a variety of acids including acetic and butyric acids and lactic acid. In order to bring about such changes in the presence of a nickel catalyst a temperature of 250° and 325 atmospheres pressure of hydrogen were necessary.

#### SULFANILAMIDE DERIVATIVES

Work on the synthesis of new sulfanilamide compounds continues although at a somewhat reduced rate. Several attempts have been made in this field to correlate physical properties of the compounds with pharmacological action but it is too early to know how successful the theories will be.

Roblin, Winnek, and English (American Cyanamid Co.) have re-

ported the synthesis of some new sulfanilamidopyrimidines which represents a continuation of the work that led to the development of sulfadiazine. One of the new compounds approached in activity sulfadiazine but the others had little action.

Moore and Miller (Sharp and Dohme, Inc.) have prepared an interesting series of sulfanilamide derivatives in which the amine group has been condensed with one of the carboxyls of a dicarboxylic acid. The most interesting compound in the series, succinylsulfathiazole, has shown merit as an intestinal antiseptic and is now being marketed as "sulfasuxidine."

In another investigation Winnek and co-workers (American Cyanamid Co.) have prepared sulfanilylcyanamide and from this have obtained a long series of compounds of the urea and guanidine type. A number of these are likewise of potential value in the treatment of intestinal infections. Sulfanilylguanidine itself has been used for some time in this connection. It was suggested that sulfanilylaminoguanidine in particular was worthy of further study.

#### STEROLS

The long series of publications from the laboratory of Marker and co-workers (Pennsylvania State College) continues unabated. Further significant contributions have now been made to our knowledge of the structure of the sapogenins. It has been shown conclusively that  $\beta$ -chlorogenin differs from chlorogenin only in the configuration of a hydroxyl group and chlorogenin has been found to have the same steric structure as cholestane.

A variety of interesting transformations has also been carried out with various bromo derivatives of *allo*-pregnanone.

#### SEX HORMONES

Activity continues in the synthesis of compounds potentially active as sex hormones. Bachmann and Thomas (University of Michigan) have prepared a compound contain-



ing one less ring than does the natural estrone. The compound was obtained in stereoisomeric forms. The so-called  $\alpha$  form was apparently inactive, but the  $\beta$  compound was distinctly effective in rats. These results indicate that one of the rings present in the natural estrone is not essential to physiological activity.

In another investigation the synthesis of an isomer of estrone containing the hydroxyl group in the  $\beta$  ring was reported. The crystalline  $\alpha$  form of this compound which was a racemic mixture failed, however, to show any physiological activity.

In still another investigation Bachmann, Kushner, and Stevenson were able to accomplish a total synthesis of a stereoisomer of estrone. This compound showed a low physiological activity amounting to about 0.004 that of estrone and hence is not dl-estrone. It is possible that the mixture from which the new compound was obtained actually contains some estrone.

#### MARIHUANA STUDIES

Further work has been carried out by various investigators on the oil obtained from *Cannabis sativa*. Wollner, Matchett, Levine, and Loewe of the U. S. Bureau of Narcotics Laboratory succeeded in isolating from "red oil" a physiologically active tetrahydrocannabinol. This compound which was obtained in an essentially pure state as the acetate was readily dehydrogenated to cannabinol acetate and took up one molecule of hydrogen. The compound is comparatively unstable since hydrolysis of the acetate gives a material of lower activity than the product originally isolated. This tetrahydrocannabinol differs in physical properties from the two compounds obtained by Adams and co-workers from cannabinol.

#### VITAMIN B<sub>1</sub> SYNTHESIS BY YEAST

It has been shown by Van Lanen and others (University of Wisconsin) that when yeast is allowed to grow in a media containing the pyrimidine

and thiazole segments of the thiamin (Vitamin B<sub>1</sub>) molecule the two parts of the molecule become joined in an efficiency of as high as 90 per cent provided the amount of thiamin present in the yeast is not too high. The conversion occurs when the yeast cells are aerated during growth.

Extensive tests showed that it was not possible to replace the pyrimidine or thiazole parts of the thiamin by other compounds in the synthesis. Ordinary baker's yeast was most effective in bringing about the thiamin synthesis.

#### THE STRUCTURE OF BIOTIN

It was shown some two years ago that the growth substance in yeast isolated by Kögl is identical with Vitamin H. Biotin from other work was demonstrated to be a member of the Vitamin B complex. Although its role in nutrition is not entirely clear it probably plays an important function. During the past year du Vigneaud and co-workers (Cornell University Medical College) have been able to determine by degradation methods the molecular structure of biotin. It contains a thiophane ring with a urea residue linked in the 3,4- positions and a five-carbon side chain terminated by an acid group, which is attached in position 2-. Undoubtedly attempts to synthesize biotin are now being carried out in many laboratories but no report of a successful preparation has yet appeared.

#### VITAMIN E

After a continuation of their long series of studies on compounds related to Vitamin E, Smith and co-workers (University of Minnesota) have now succeeded in synthesizing  $\alpha$ -tocopherol by another method which shows beyond a doubt that this compound is a chroman derivative. Previous methods of synthesis involved ring closure and might conceivably lead to either a five or six membered ring. The identity of material made by the new method with that obtained by previous procedures was checked by some six different means including a biological assay.

## ORGANIC AND INORGANIC CHEMISTRY

### VITAMIN K

The water soluble compound obtained by the action of sodium bisulfite upon 2-methyl-1,4-naphthoquinone has been considered to be the 3-sulfonic acid. In as much as other such compounds having a substituent in the 3-position have little Vitamin K activity the structure of the product was reinvestigated by Baker and co-workers (Lederle Laboratories). From their work it appears that the compound in question is actually a bisulfite addition product rather than the 3-sulfonic acid. They isolated the true 3-sulfonic acid as a by-product in the sodium bisulfite reaction and found that its physiological activity was small. Upon standing in water solution the active bisulfite compound slowly rearranges to the inactive sulfonate. The usefulness of the bisulfite addition product lies in its solubility in water.

In another investigation it was found that water soluble esters of 1-acetoxy-2-methyl-4-naphthol could be prepared which had up to 50% of the activity of the 2-methyl-1,4-naphthoquinone. Of these the phosphate seemed to be most promising.

### POLYPEPTIDE SYNTHESIS

No one has yet synthesized a protein and there is grave doubt whether such an accomplishment will ever be effected in the laboratory by organic chemical means, but our knowledge of protein chemistry can be extended by the synthesis of polypeptides which are essentially chains of amino acids linked together in the same manner that they are in proteins. Pacsu and Wilson (Princeton University) have studied the polycondensation of simple peptide esters in an effort to prepare more complex polypeptides. They find that the methyl ester of a hexapeptide on being heated does not go into a cyclol structure as postulated by the Wrinch theory, but instead undergoes a series of reactions yielding peptide esters having successively 12, 24, 48, and 96 amino acid residues in the chain. A reaction of this type makes possible the synthesis of higher molecular

weight polypeptides than can possibly be obtained through ordinary chemical means hitherto available. However, these peptides differ greatly from proteins in that they consist of only one kind of amino acid whereas in a protein 20 or more may be present.

### SYNTHESIS OF LACTOSE (MILK SUGAR) AND CELLOBIOSE

Hudson and co-workers (National Institute of Health) have now succeeded in synthesizing cellobiose by a method which defines its structure unequivocally. The starting materials were acetobromoglucose and a mannose derivative. Condensation of these compounds and acetylation gave *epi*-cellobiose octaacetate which was then converted into cellobiose hexaacetate. Hydrolysis of the crystalline octaacetate derived from this gave cellobiose. These reactions also complete a total synthesis of cellobiose in that mannose and glucose were made many years ago by Emil Fischer from inorganic substances. Cellobiose is of marked interest as it is the disaccharide obtained in the hydrolysis of cellulose.

In another investigation Hudson and co-workers have succeeded in a similar synthesis of *epi*-lactose and lactose from mannose and galactose. These also may be regarded as total syntheses since the hexoses were originally made by Emil Fischer. The suggestion was made by Hudson that the previously reported synthesis of lactose by the direct combination of glucose and galactose are open to question. It is possible that earlier investigators did prepare an osazone of lactose but even this is open to question.

### DEXTRINS FROM CORN SYRUP

The term dextrin refers to intermediate hydrolysis products of starch which have molecular weights of varying size. Progress toward determining the nature of these compounds has been reported by Levine, Foster, and Hixon (Iowa State College). Purification of the dextrins isolated from corn syrup gave prod-

ucts varying in composition from those that contain two glucose units up to 26 glucose units. It was found that these dextrans could be oxidized to the corresponding acids by iodine in a quantitative manner. Methylation of the dextrans and hydrolysis to tetramethyl-*d*-glucose showed that the dextrin chains are not branched.

#### UNFERMENTABLE SUGAR IN MOLASSES

For a number of years attempts have been made to determine the nature of the sugar-like material in molasses which would not ferment. It has been suggested that glucose, a sugar discovered many years ago, was the substance present. It has now been shown by Zerban and Sattler (New York Sugar Trade Laboratory and Brooklyn College, respectively) that at least one of the substances present is *d*-allulose, the epimer of *d*-fructose or fruit sugar. No other sugar could be obtained from the solution left after fermentation. The *d*-allulose was converted into its tetramethyl- $\alpha,\beta$ -methyl-*d*-alluloside. Undoubtedly other materials than the *d*-allulose are present in the distillery slop but these have not been identified with certainty.

#### OXIDATION OF CELLULOSE

Many investigations in the past have dealt with the products obtained by oxidizing cellulose. Usually these products were not definite chemical compounds and a comparison of them is difficult. Yackel and Kenyon (Eastman Kodak Research Laboratories) have found that nitrogen dioxide brings about an oxidation of the primary alcohol groups in cellulose to acid groups without appreciably disturbing the remainder of the molecule. As they state: "Even with high degrees of oxidation the cellulose remains fibrous and is not friable." A complete oxidation gives a product with a carboxyl content of about 25 per cent which corresponds to a material composed only of anhydroglucuronic acid units.

#### MODIFIED WOOL

As the result of extensive research by scientists of the textile foundation a much better picture of the chemical nature of wool is now available. It has recently been reported by Geiger, Kobayashi, and Harris that the stability of wool toward various reagents is much increased if the wool is first treated with a reducing agent that destroys a great many of the disulfide linkages, particularly if the reduced wool is then treated with some dihalide which ties the sulfur atoms together again in an unreducible combination. Fortunately also the modified wool is much more resistant to the action of moths and beetles.

#### STERIC HINDRANCE IN FREE RADICALS

One of the factors which is considered important in the dissociation of hexaaryl ethanes into free radicals is the steric effect of various groups. Brown, Schlesinger, and Cardon (University of Chicago) have studied a similar effect for addition compounds of trimethylamine and other amines with trimethylboron. Other factors being equal the stability of the addition compound is a function of the basicity of the amine. However, it was found that a dimethylpyridine with the methyls adjacent to the nitrogen formed a less stable addition product than does pyridine itself. This behavior is contrary to that expected on the basicity values since pyridine is the weaker base. It was therefore concluded that the methyl groups interfered in the formation of the addition complexes, just as they contribute to the dissociation of a hexaarylethane containing  $\alpha$ -tolyl groups.

#### SEPARATION OF HYDROGEN ISOTOPES

One of the important methods for separation of deuterium from ordinary hydrogen has been by the electrolysis of salt solutions. Johnston and Davis (Ohio State University) have investigated the separation that occurs when various active metals and com-

## ELECTROCHEMISTRY

pounds are added to water or acid. They found that  $\alpha$ , the separation factor, varied from about 1.4 for the action of calcium on water to as high as 6 or over for the action of pure iron or mossy zinc with dilute sulfuric acid. The values of  $\alpha$  lie on both sides of the equilibrium value which is 3 at 30°. The conclusion was that differences in reaction rates contribute to the separation. It is also concluded that the reaction of alkali metals with liquid water occurs by a molecular mechanism since the same  $\alpha$  was obtained by the action of water vapor in an investigation by others.

### STRUCTURES OF NITROUS OXIDE AND HYDROGEN AZIDE

Although these two inorganic compounds are so different in composition their reactions and structures represent many similarities. Shomaker and Spurr (California Institute of Technology) have made electron diffraction measurements on these compounds. The structure found for hydrogen azide was identical with that obtained from a consideration of the moments of inertia, if the assumption is made that the

molecule exists chiefly as two resonating structures. The proposed structures for both molecules based on Pauling's predictions was confirmed; that is, the three heavier atoms (2 nitrogens and an oxygen or 3 nitrogens) have an essentially linear arrangement.

### HALOGEN EXCHANGES IN PHOSPHORUS HALIDES

A contribution to the old problem of whether or not all of the valences in phosphorus pentachloride are identical has been made by Koskoski and Fowler (Johns Hopkins University). They investigated the rapidity of exchange between the halogen in a phosphorus halide and the radioactive halogen in an inert solvent. There was found to be a rapid interchange between the free halogen and that combined, and the interchange apparently was just as rapid for the halogen in the trivalent phosphorus as in the pentavalent. The conclusion was therefore drawn that the halide atoms were equally reactive in the tri- and pentavalent phosphorus derivatives and two kinds of valence bonds could not be detected.

## ELECTROCHEMISTRY

BY COLIN G. FINK

PROFESSOR, COLUMBIA UNIVERSITY

### THEORY OF ELECTRO-CHEMISTRY

The year 1942 recorded a number of salient contributions to the theoretical phase of the science of electrochemistry. Particularly noteworthy was the new interpretation by Professor Peter Debye of Cornell of the Reaction Rates in Ionic Solutions. Debye introduces the concept of a diffuse ionic cloud and in evaluating the absolute rate of a kinetic reaction he does so without the aid of the quantum theory.

Professor A. L. Ferguson and his students at the University of Michigan continued their investigations on

hydrogen overvoltage. The new experimental results show definitely that the cathode potential both below and above the so-called "reversible" value can be materially altered for a given current density by conditions on the solution side of the interface which influence the rate of diffusion of hydrogen away from or to the interface.

John A. Henricks investigated the underlying cause of bright-plating and concluded that, when bright metal deposits are obtained in the presence of organic addition agents, the brightness is brought about by the action of an adsorbed organic material of the acid inhibitor type.



**MAGNESIUM**

The one product of the electrochemical industry that continued to take priority over all others throughout 1942 was magnesium. Magnesium is the metal of the present as well as the metal of the future. Its physical properties, in particular its low specific gravity and its high resistance to fatigue, place it next to steel as the leading metal in industry and engineering. If we compare costs per unit volume, magnesium is next to steel the cheapest engineering metal. In 1932 the United States turned out 400 tons of magnesium metal and ten years later, in 1942, 30,000 tons.

During 1942 four new magnesium producing plants went into operation. Whereas in 1941 almost every ounce of the metal was made by the old fused chloride process, in 1942 a second process, the so-called ferrosilicon or Pidgeon process, entered the field and contributed about 12 per cent of the total output of the United States.

Magnesium metal plays a very important role in our airplanes. Vital parts, such as cylinder heads that must withstand severe and repeated mechanical stresses, are made of magnesium.

As to the availability of raw material for the production of magnesium, our country is really "blessed." There is an almost infinite supply. Deposits of the commercial magnesium minerals—magnesite, dolomite, brucite and langbeinite—occur at widely scattered localities throughout the United States, and on top of all are the many millions of tons of magnesium salts in the ocean that laps 3,000 miles of our shores. The Freeport, Tex. magnesium metal plant of the Dow Company is already utilizing the ocean as the source of raw material. Another magnesium company has during the course of 1942 developed an improved process for the recovery of the precious metal from the sea and all this in spite of the fact that the magnesium content of the sea is but 0.14 per cent.

**FLUORINE**

A product of the fused electrolyte industry which is increasing in industrial importance is fluorine gas. Cady, Rogers, and Carlson of the University of Washington have designed a new, improved cell. Fluorine is one of the most powerful oxidizing agents known. Upon treatment of marsh gas with fluorine gas we get "Freon," the refrigerant used in millions of electric household refrigerators.

**ELECTRO-OSMOSIS**

Renewed interest in this special field of electrochemistry was displayed during the year not only by university research laboratories but also by the United States Government. A detailed report on the electrophoretic dewatering of clay was published by the U. S. Bureau of Mines of Norris, Tenn. The process developed by the government engineers is an improvement over that in use in Germany for several years.

This increased interest in electro-osmosis is a direct result of the extensive studies carried out by the colloid chemist and by investigators in the medical profession. The reports published by Professor H. A. Abramson of Columbia University are particularly significant. There is every indication that the closely controlled electric migration of living cells and body colloids will play an ever increasing role in the treatment of skin diseases.

**CORROSION PREVENTION**

Corrosion of metals and its prevention continues to be one of the most popular topics among electrochemists. Two important meetings on corrosion were held during the year, one sponsored by the Electrochemical Society and the other by the American Association for the Advancement of Science. Special stress was laid on "Cathodic Protection" as applied to pipe lines and boiler tubes. Maintaining the pipes at a fixed cathodic potential will counteract the tendency to rust. The industrial success

of the scheme is strikingly demonstrated by the Pacific Gas and Electric Company. Its pipeline in California has been cathodically protected for about eight years without any failures.

### ELECTRODEPOSITION: ELECTROPLATING

The Bunker Hill and Sullivan Mining and Concentrating Company of Idaho developed a new process for the electrolytic recovery of metallic antimony from tetrahedrite-bearing ores. The electrolyte is an aqueous solution of sodium thio-antimonate.

In THE AMERICAN YEAR BOOK (1941) review we emphasized the significant change in the control of the American electroplating industry. For over 30 years the automotive industry controlled the plating industry. Now, with the outbreak of war, the control has passed into the hands of the strip steel manufacturers. The steel companies specifications read "plate before fabricating" as against the old automobile companies' specification "fabricate before plating." Another specification of the steel companies reads "One thousand to three thousand amperes per square foot" as against the former automotive specification "Ten to thirty amperes per square foot" of surface to be plated.

During 1942 the two dominant factors that hastened this shift in control from the one to the other industrial group were the drastic reduction in automobile production and, secondly, the rapid development of strip steel plating. Thus, for example, electrotin plated steel strip for the canning industry consumes one third the tin formerly consumed by the hot dip or molten tin process.

With the greater abundance of potash salts available to American manufacturers due to the development of the extensive potash beds in New Mexico and California the new potassium stannate tin plating bath of Sternfels and Lowenheim holds out promise of commercial applicability. The potassium bath offers

many advantages over the old conventional sodium stannate bath.

Six major steel companies were electrotin plating strip steel during 1942.

The so-called "bright-plating" baths are another dominant factor in the development of strip steel plating. For over 100 years it has been the practice mechanically to polish or "color" the deposit. All this costly procedure has been done away with in the case of nickel, zinc, cadmium and tin.

In the chromium plating field the activity today is quite distinct from that of two years ago when most of the chromium plated articles were of the decorative type. Today by far the greatest majority of articles being plated are machine parts—gages, dies, bearings, shafts, etc.—articles quite foreign to automobile jewelry and bathroom fixtures. There is more chromium plating today than two years ago. In most cases today it is the hard wear-resistant chromium that is applied. In the war effort, chromium-plated machine parts have in many cases increased the life of the machine ten-fold.

Electroplated bearings were turned out by the millions during the year in answer to the challenge that tin alloy bearings were almost impossible to procure with Japan in control of most of the world's important tin ore centres. Besides chromium-plated bearings, other metals applied included silver for heavy duty bearings and indium. This rare metal is now classified as one of the strategic metals.

Another rare metal on the strategic list is rhodium. Rhodium plated contacts present surfaces better than any others for switch contacts at radio frequencies; corrosion is eliminated and a long life due to rhodium's intrinsic hardness is assured.

An outstanding contribution in the nickel plating field is that of an improved method of applying a strongly adherent nickel deposit to magnesium metal articles. The method was developed in the Dow Chemical Com-

pany's research laboratories, and its success is primarily dependent upon the careful preparation of the magnesium metal surface before plating. The treatment comprises a hydrofluoric-nitric acid etch. A high fluoride nickel plating bath is used.

A newcomer in the electroplating field is the palladium plating bath of George Lambros. The deposit resembles rhodium plate very closely but is far less costly and is not on the restricted or strategic list. Palladium is the cheapest of the platinum metals. It is highly resistant to atmospheric corrosion.

#### ELECTROPLATED PLASTIC ARTICLES

Due to the rapid development in plastics and the manufacture of a very wide variety of plastic articles many of which to take the place of those formerly made of brass and die cast metal, demand arose frequently for metallizing the surface of various plastic articles. This demand has stimulated the search for and development of simple practical meth-

ods of applying metal coatings to plastic surfaces. Accordingly, we see a rapid spread of the electroforming art so successfully applied and with such exact reproduction of minutest detail in the production of phonograph records.

The electrolytic polishing of metals, consisting of producing a bright mirror-like surface on metals by anodic treatment in phosphate solutions, has spread rapidly throughout the metal industries.

#### CHLORATES

On account of the war demands, four of the chemical manufacturers went into potassium and sodium chlorate production. In peacetime there is but a very limited demand for these salts. The electrolytic cell employed uses a saturated solution of sodium (or potassium) chloride and operates at relatively high temperatures. It has been found that the addition of a little potassium dichromate promotes the chlorate production. Complete absence of sunlight is absolutely essential.

#### PERIODICAL PUBLICATIONS

*American Physics Teacher*  
American Institute of Physics, 175  
Fifth Ave., New York City.  
*Chemical and Engineering News*  
1155 16th St., N.W., Washington,  
D. C.  
*Chemical and Metallurgical Engineering*  
330 West 42nd Street, New York  
City.  
*Chemical Engineering Catalogue*  
330 West 42nd Street, New York  
City.  
*Chemical Industries*  
522 Fifth Ave., New York City.  
*Chemical Reviews*  
Williams & Wilkins Co., Baltimore,  
Md.  
*Chemist (The)*  
233 Broadway, New York City.  
*Industrial and Engineering Chemistry*  
332 West 42nd Street, New York  
City.

*Journal of the American Chemical Society*  
12 Oxford Street, Cambridge, Mass.  
*Journal of Chemical Education*  
11 West 42nd Street, New York  
City.  
*Journal of Chemical Physics*  
175 Fifth Ave., New York City.  
*Journal of Mathematics and Physics*  
Massachusetts Institute of Tech-  
nology, Cambridge, Mass.  
*Journal of Organic Chemistry*  
Mount Royal and Guilford Aves.,  
Baltimore, Md.  
*Journal of Physical Chemistry*  
Mount Royal and Guilford Aves.,  
Baltimore, Md.  
*Physical Review*  
175 Fifth Ave., New York City.  
*Physics*  
175 Fifth Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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| AMERICAN ASSOCIATION OF CEREAL CHEMISTS, 4049 Pennsylvania Ave., Kansas City, Mo.   | AMERICAN OIL CHEMISTS SOCIETY, 509 Poydras St., New Orleans, La.   |
| AMERICAN ASSOCIATION OF PHYSICS TEACHERS, University of Pennsylvania, Philadelphia. | AMERICAN PHYSICAL SOCIETY, Columbia University, New York City.   |
| AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, O.                            | AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, U. S. Bureau of Agricultural Chemistry and Engineering, Washington, D. C. |
| AMERICAN CHEMICAL SOCIETY, INC., 1155 16th St., N.W., Washington, D. C.             | AMERICAN SOCIETY OF BREWING CHEMISTS, INC., 64 East Make St., Chicago.   |
| AMERICAN ELECTROCHEMICAL SOCIETY, Broadway and 117th St., New York City.            | ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS, Box 290, Penn Ave. Station, Washington, D. C.                       |
| AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, 50 E. 41st St., New York City.            | COPPER AND BRASS RESEARCH ASSN., 420 Lexington Ave., New York City.  |
| AMERICAN INSTITUTE OF PHYSICS, 175 Fifth Ave., New York City.                       | NATIONAL RESEARCH COUNCIL, 29 W. 39th St., New York City.  |
| AMERICAN LEATHER CHEMISTS ASSOCIATION, 143 W. 20th Street, New York City.           | SOCIETY OF CHEMICAL INDUSTRY, Pratt Institute, Brooklyn, New York City.  |
| AMERICAN MICROSCOPICAL SOCIETY, Kansas State College, Manhattan, Kan.               | SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSN., 260 W. Broadway, New York City.                                    |



## DIVISION XXII

### BIOLOGY

#### ORGANIC EVOLUTION AND GENETICS

BY MYRON GORDON

RESEARCH ASSOCIATE IN GENETICS, NEW YORK ZOOLOGICAL SOCIETY

##### SYSTEMATICS AND THE ORIGIN OF SPECIES

A notable contribution to our approach to the problems of organic evolution was made in 1942 by the appearance of the book *Systematics and the Origin of Species* written by Dr. Ernst Mayr, associate curator of the Whitney-Rothschild Collection of Birds at the American Museum of Natural History. This book is the thirteenth of The Columbia Biological Series and is published by the Columbia University Press.

Dr. Mayr has cleared the path for systematists to coordinate their vast amount of data based upon millions of described life forms, with those gathered by other biologists for a united attack on the common problem of the process of organic evolution. The point of view of the new systematists is characterized by the author as: The importance of the species as such is reduced, since most of the actual work is done with subdivisions of the species, such as subspecies and populations. The population, or rather an adequate sample of it, the "series" of the museum worker, has become the basic taxonomic unit. The purely morphological species definition has been replaced by a biological one, which takes ecological, geographical, genetic and other factors into consideration. The choosing of the correct name for the analysed taxonomic unit no longer occupies the central position of all systematic work. Dr. Mayr be-

lieves that the importance of systematics in the study of evolution was perhaps better realized in the last century than it is now. Darwin's conclusions, he adds, in his *Origin of Species* were based largely on the results of contemporary taxonomic work, and he sees no reason why modern systematics should not yield even greater results because of the much larger body of data now available.

This book is a companion volume to *Genetics and the Origin of Species* by Dr. Theodosius Dobzhansky, and the latter author has contributed an introduction to the new one. Dr. Mayr's volume has ten chapters: The method and principles of systematics; Taxonomic characters and their variation, Phenomena of geographic variation; Some aspects of geographic variation; The systematic categories and the new species concept; The polytypic species, in nature and in systematics; The species in evolution; Nongeographic speciation; The biology of speciation; The higher categories and evolution. The book has a long and selected list of references, chiefly devoted to modern work and is particularly valuable in that the work of foreign authors are reviewed critically. Dr. Mayr's book contains a vast amount of factual material which is of great significance to students of evolution. The subject of ornithology, while far advanced in straight taxonomy, has hitherto been little used by the gen-

eral geneticist and modern evolutionist owing to the difficulties in conducting breeding experiments with birds. It is pointed out, however, that much field data may often provide such information as is necessary to arrive at definite conclusions concerning the breeding behavior of populations.

Geneticists will be indebted to Dr. Mayr for his clear explanation of the many terms used in various specialties in taxonomic work. In addition the many new terms which have cropped up in the past ten years during the crystalization of the new concepts of species formation, are defined and illustrated in simple and direct manner. The usefulness of his book is enhanced by a carefully prepared index.

#### POPULATION GENETICS

In writing the foreword to the sixth in the series of volumes devoted to current symposia in the field of biology called *Biological Symposia* and published by the Jaques Cattell Press, Lancaster, Penn., 1942, Professor Th. Dobzhansky of Columbia University said, in part, that genetics, embryology, systematics, physiology, ecology, and cytology have in this volume ceased to be distinct from each other. The dividing line between studies on structures (morphology) and those on function (physiology) of living things has become obliterated, and the separation between the fields of individual development (ontogeny) and development of populations (evolution, phylogeny) begins at last to be erased.

Geneticists studying population problems have shown a marked tendency toward union with other biological disciplines. Population genetics, said Dr. Dobzhansky, considers the fate of gene and chromosome mutations in natural population in space and in time; formation of racial and specific genotypes from the mutational elements through the action of the genetic drift and of natural selection; and fixation of the above genotypes by isolating mechanisms. In so far as the processes of

raciation and speciation are concerned in the maintenance of harmony between the organisms and their environment, population genetics is aiming at the problem of adaptation. It is also dependent upon physiology, particularly that of gene action. Since the interrelations between organisms and the environment are the subject matter of ecology, genetics and ecology become closely allied. The processes of raciation and speciation are a part of the grand process of evolution. Evolution can not be studied without reference to the data gathered by systematists, comparative anatomists and palaeontologists. The geneticists finds himself at the junction of all of the above disciplines.

#### TEMPERATURE AND EVOLUTION

Professor H. H. Plough of Amherst College, in introducing this section of the Biological Symposia, recalls the statement of William Bateson, the English biologist, made in Toronto, 20 years ago: "Though our faith in evolution stands unshaken, we have no acceptable account of the origin of 'species.'" This pessimistic thought has given way to intelligent optimism by active, present day biologists and it may be summed up by a quotation of Timofeef-Ressovsky: "Thus, the whole analyzable evidence is in favor of the assumption that the origin of taxonomic groups is due to the accumulation and combination of genetically known variations."

In his discussion of "Temperature and Spontaneous Mutation," Dr. Plough makes the following points: In wild populations spontaneous mutability is the primary factor on which evolutionary change depends. Mutations, broadly speaking are of two types, gene mutations and chromosome mutations. Dr. Plough proceeds to give the methods for testing spontaneous mutability for a suitable species, *Drosophila melanogaster*. For determining the mutation rate in a stock at a given environmental condition, the CIB method is used. The mutation frequency is

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roughly proportional to the number of genes present. The wide range in mutability shown by each of the chromosomes in different stocks is puzzling. It suggests that genetic factors may influence mutability. Temperature is not the cause of mutability, but it is important in determining its rate. A distinction is made by the effect of temperature as such and temperature shocks, but each is a force for mutability. Translocation, one form of chromosomes mutation, is not effected by temperature. The genetic variability of wild populations living under higher temperatures is greater than those living under lower average temperatures. Where mutation is the limiting factor, it may well be that the increase mutation rate at a higher temperature would produce market increase in evolutionary diversification. It is perhaps this relation of temperature to mutation which determines the greater number of species in tropical areas.

In the second paper, Dr. Gerhard Fankhauser of Princeton University discussed the "Induction of Polyploidy in Animals by Extremes of Temperature." These changes concern alterations in chromosome number, in particular, the addition of one or more sets of chromosomes to the usual two which most organisms carry in their cells. It is a frequent and important change in plants but in animals it is relatively infrequent, and its effects is too limited to allow conclusions to be drawn. In the laboratory, extreme temperatures induce polyploidy, and it is possible that occasionally such condition may produce a large number of polyploid individuals in nature.

Dr. George P. Child of Amherst College described evolution as a change of one "stable organic system" into a different but still stable organic system. Dr. Child is concerned with the study of the developmental reactions which take place in the initial system which when changed give rise to the new stable system. His studies indicate that it is possible to produce by properly

timed temperature treatment in the wild type or any mutant type, non-inherited phenotypes which simulate the phenotypes of known genotypes or "phenocopies."

"Temperature Factors in the Development and the Evolution of Sex" was discussed by Dr. Emil Witschi of the State University of Iowa, particularly emphasizing the striking parallelism that exists between the effects of temperature on the ontogenetic development and of climate on the phylogenetic evolution of sex differentiation in the amphibians. In the light of the facts which he mentions it appears that temperature is less effective by acting immediately on the genes than, indirectly, by modifying the phenotype. Orthogenetic evolution without increase of survival value must be directed by factors which essentially remain the same during long epochs. Temperature is an accelerant mainly by its ability to modify the microchemical condition of the organism through changes in the phenotype.

In a more general presentation, entitled "Isolating Mechanisms, Evolution and Temperature," Dr. H. J. Muller of Amherst College summarized his contribution by saying that there are several ways in which temperature affects the speed of the processes of divergence. (A) Temperature differences may give the ecological setting for the establishment of bars to crossing, both genetic and acquired. (B) Genetic differences in adaptation to temperature may also provide complementary genes that directly result in the death or abnormality of hybrids. (C) High temperature, as well as inconstant temperature, causes a high mutation rate, although it is probable that such an influence would eventually be counteracted by increased selection in the direction of a lower mutation rate. (D) The increased number of generations in a given time caused by higher temperature must, other things being equal, be reflected in a directly proportionate increase in the speed of divergence and of evolution in general. (E) On

## ORGANIC EVOLUTION AND GENETICS

the whole, in areas of land where there is enough humidity, higher temperature is correlated (through the common cause, greater amount of incident solar radiation) with a greater abundance of vegetation produced, and so with a greater total animal population. In so far as this allows an increase in the number of small local groups of animals it makes for more effective, faster intra-specific selection between the local groups on the basis of differences that arose by drift and by intra-group selection, and so hastens intra- and inter-specific divergence and evolution in general. (F) The greater amount of diversification and the greater complexity of the ecological conditions brought about in warmer regions as a result of the co-action of the above factors reacts back upon the organisms inhabiting these regions to increase their diversification and their general evolutionary changes still more, in response to these conditions. For the last three reasons at least, the warmer regions have been the chief centers within which new types have arisen and from which they have spread elsewhere.

There are, however, certain evolutionary advantages possessed by regions of inconstant or of cooler temperature, especially where these are not so extreme as to be paralyzing or incapable of being effectively adapted to. For the very difficulties of living thereby created constitute, for certain highly advanced animals especially, potent and peculiar selective factors that make possible important advances, as well as diversifications, which could otherwise have become established only at a much slower, more uncertain pace or not at all. Nevertheless, in their more elaborated later forms, these changes can prove to be of great value even in the warmer regions. Some of these advances, moreover, serve as foundations for the establishment of still other progressive innovations, of use in warm as well as in inconstant or cool regions.

In the past, inter- and intra-specific

isolation of varying degrees, has been of the most essential features in evolutionary divergence and, through this, in evolutionary advance. Since the possibility of any further natural isolation of these sorts in our own species is now being removed, the problem arises of what means can be found of avoiding the biological consequences which this situation would naturally entail.

"Form and Function in Frizzle Fowl: the Interaction of Hereditary Potentialities and Environmental Temperature" was the topic of Dr. Walter Landauer of the University of Connecticut. He pointed out the plumage defects, incident to frizzling, a loss of feathering, cause increased loss of body heat. If the birds live at temperatures near thermic neutrality no important changes occur; if, on the other hand, the temperature of the environment is very low, the excessive loss of body heat will lead to a breakdown of the mechanism of heat regulation, to "thermogenetic fatigue" and to death.

Temperature experiments produce in many ways results paralleling those found between geographical races. This is true for such traits as density of the hair covering, size of heat-losing appendages, body size, rate of metabolism, cardiac rhythm, and so on. It is clear that many animals have developed potentialities which are never realized in their normal habitat. Such potentialities must play an important role when the mechanism of homeothermy is disturbed in some fashion, such as by the Frizzle mutation, or when animals are exposed to conditions of extraordinarily severe environmental temperatures. The accumulation of genes which make animals more adaptable to variations in their environment or to an intensification of environmental effects on account of mutational changes is obviously of great importance for survival of the species. To be adaptable must in the long run be of greater value than to be specialized and adapted.

Dr. Alfred C. Kinsey of Indiana University added to his study of the



biology of cynipid insects in a paper entitled "Seasonal Factors in Gall Wasp Distribution." He said that it is surprising to find that in many groups of related species the dates of emergence grade in sequence from earliest at one end, to the latest at the geographically remote end of the series. At the same time it has been found that gall wasp emergence dates are largely fixed by hereditary factors, and that there is no clear evidence that temperature, or any other immediate factor has more than minor effects on those dates. He warns that temperature may be a factor at certain points in evolution; but the present date on gall wasps should emphasize the danger of extending conclusions that are based upon experiments that have been carried on with only a limited number of organisms.

Dr. John A. Moore of Queens College suggested that a study of the influence of temperature on distribution and speciation in Poikilothermic or cold-blooded animals may be more revealing than a similar study on animals that maintain a constant body heat, homotherms. Dr. Moore used five species of frogs common in the northeastern United States because of the marked seasonal nature of their breeding methods which would seem to indicate a dependence on environmental temperature. The embryonic growth characteristics of different species that appear to be adaptations to environmental temperature are for the most part constant in individuals of any one species from different latitudes. This shows, says Dr. Moore, that the direct action of environmental temperature is not the cause of these adaptations in frogs. For a species to extend its range from a warmer to a colder region certain fundamental changes appear necessary such as a lowering of the embryonic temperature tolerance, and a general increase in rate of growth and metabolism. Direct influence of temperature during the life of the individual may bring about changes aiding adaptability but such adaptations, important as they

may be in survival of the individual, play no part in evolution of species. Evolution can occur only with the production of inheritable changes. The role of temperature in evolution of northern and southern species would be as a selector of mutations, appearing at random that are necessary to fit the species to the new climatic zone.

#### ISOLATING MECHANISMS

The second section of the Biological Symposia was devoted to Isolating Mechanisms and the first paper on this subject was given by Dr. G. Ledyard Stebbins, Jr. of the University of California. He presented "The Role of Isolation in the Differentiation of Plant Species." He stated, in part, that descent with modification takes place as a result of the interaction between mutation, natural selection, and random fixation, but if these forces are relatively static, the species will remain fixed, and will not undergo evolution. Discontinuities are developed when two parts of a more or less variable species are separated from each other by any of a number of isolating mechanisms. These mechanisms evolve gradually, and are genetically independent of the morphological changes which produce visibly different species. He believes that the production of new species as a result of interspecific hybridization without a subsequent change in the chromosome number is definitely possible.

Dr. Albert P. Blair of the American Museum of Natural History restates Romanes's adage: Without isolation or the prevention of interbreeding, maintenance of the existing discontinuities, or origin of new ones, is in no case possible. By his study of the "Isolating Mechanisms in a Complex of Four Species of Toads" Dr. Blair states the following generalization: in all localities where two or more members of the species complex under discussion occur, some presumed hybrids are to be found. Despite the separation of organisms into specific population units which interbreed primarily within them-

selves there is still the possibility of a limited exchange of hereditary materials between these several units, the exact amount of exchange varying from locality to locality and from year to year. Such non-static species relationships offer a great opportunity for study of genes between the several toad species and is extensive enough so that the discontinuities between them will finally be obliterated; it is also possible that the genes of one species which succeed in crossing the isolating barrier into another species are eventually eliminated. This is a problem of quantitative population genetics which can be elucidated only by further studies.

The "Isolating Mechanisms in Gall Wasps" are undoubtedly cytological, writes Dr. Alfred C. Kinsey, but their peculiar host restrictions suggest that the choice of host, a product of the insect's physiologic reactions, was the original basis for differentiation of the major groups.

Dr. J. T. Patterson, speaking for the group of investigators at the University of Texas, Wilson S. Stone, Allen B. Griffen, James F. Crow, Linda T. Wharton, and Gordon B. Mainland on the subject of "Isolating Mechanisms in the Genus *Drosophila*" classifies the problem as follows: 1. Isolating mechanisms relating to environment; these would include geographical isolation, or the distribution of organisms in space, and ecological isolation, or the relation of organisms to food, climate, soil, and other environmental factors; 2. Isolating mechanisms relating to reproduction; these would include barriers to crossing between parent forms, such as mechanical, seasonal, or sexual isolation, gametic and zygotic inviability after cross fertilization has occurred, and hybrid sterility in the F-1, F-2 and subsequent generations.

Dr. Patterson and his group have observed that at least six different kinds of isolating mechanisms have been detected: geographical, ecological, sexual, gamete mortality, zygote mortality, and hybrid sterility.

These mechanisms occur in various combinations in the different groups of *Drosophila* species. The genetic background of certain of these isolating mechanisms have been demonstrated. Certain of the mechanisms involved are due to recessive autosomal factors, others to autosomal or sex-linked dominant factors. Certain of them are due to genic unbalance, which depends on many factors in hybrid combinations, others to a single gene or gene pair. Thus, quantitative and qualitative experimental studies applied to the various species groups of the genus *Drosophila* reveal a number of different isolating mechanisms. All of these have but one net effect, and that is, either singly or collectively, to prevent the exchange of genes between populations.

The third section of the Biological Symposia was devoted to the Genetic Control of Embryonic Development. In this section "The Role of Genetic Differentials in the Embryonic Development of Amphibia" was presented by Dr. V. C. Twitty of Stanford University. "Morphogenesis of Genetic Abnormalities in the Chick" was given by Dr. Viktor Hamburger of Washington University and "Physiological Genetics of Melanin Pigmentation of the Guinea Pig" was the topic of Dr. Sewall Wright of the University of Chicago.

#### SPECIATION IN THE JUNCO

The purpose of the treatise on "Speciation in the Avian Genus *Junco*" (University of California Publications in Zoology 44, No. 3:173-434, 1941) as stated by the author, Dr. Alden H. Miller of the University of California Museum of Vertebrate Zoology is "to make a thorough analysis of races and species, as they occur in nature in order to determine the degree of unity of each, and to trace differentiation from individual variants through successive stages of group differentiation to the species. Particular attention has been directed to hybridization and intergradation, to the effects of different kinds of isolation, to re-

combination of racial stocks, and to the spreading of comparatively large mutations in populations. From such investigations certain assumptions concerning the evolution of natural units may be made, and some knowledge can be gained of the genetics of characters."

Since Juncos do not lend themselves to experimental breeding, the methods employed by Miller were largely observational and statistical. He has attempted to utilize genetic concepts and the ecologic background.

In his discussion Miller deals with problems of intra-racial correlations, environmental correlation, degree of variability, kinds of inheritance, sexual differentiation, phylogeny, interrelationships of forms in nature, and the formation of species.

According to Miller the process of evolution is one of differentiation and segregation. The differentiation consists of separate hereditary changes, either minute or large. Evolution proceeds through the accumulation and segregation of these changes in separate populations. The segregating process has many phases, some of which are demonstrable through analysis of individuals, colonies populations, races, and species. Segregation begins with differential average occurrence of phenotypes in populations and becomes progressively more perfect through the action of a variety of isolating agencies, including genetic isolation sooner or later. When full differentiation and absolute isolation are attained further change merely increases the magnitude of differentiation; extinction of annectent groups emphasizes morphologic and physiologic separation and obscures the evolutionary pathway that has been followed.

#### EVOLUTION OF FARM ANIMALS

There is much in the second section of the new book *Farm Animals* by John Hammond (Longmans, Green, 1942) which has a bearing on the theory of evolution for farm animals have had a rapid evolution to their present state of perfection

through the directive force of agriculturists. The author points out in Chapter IX, entitled "Evolution and Selection," that both heredity and special environmental conditions have contributed to the change. The author points out it would have been to no avail if the husbandman bred cattle of high milk production, had he not also made available a constant and adequate supply of nourishment. The primitive range cattle were subject to seasonal abundance and scarcity. By coordinating heredity and special environments, a variety of breeds of animals for special purposes have been established. Even such obscure characteristics as temperament must be considered by the dairy cattle breeder for it has been found that the tendency to produce milk is stimulated by the sight of a calf but this visual stimulation may be bred out so that this sometimes burdensome stimulus is no longer necessary. The book is extremely well balanced between the basically practical side of animal breeding and modern biological discoveries.

#### STATISTICAL GENETICS AND EVOLUTION

Dr. Sewall Wright of the University of Chicago continued to make significant contributions to evolution by his method of mathematical analysis. He stated in his "Statistical Genetics and Evolution" (*Bulletin of the American Mathematical Society* 48:223-246, 1942) that there are two processes in the evolutionary progression: (a) the transformation of a single population until it has become so different that a new species of high category must be recognized, and (b) the cleavage of species. In a very large closed, freely interbreeding population, random changes in gene frequency are negligible. Gene frequencies can change only according to the systematic pressure of mutation and selection. He further adds that in a population in approximate equilibrium, the variability due to the balance between mutation and selection is not likely to be great.

In species which are sufficiently



liable to avoid extinction, the system of gene frequencies is kept constantly on the move. In sufficiently small populations the random divergences of gene frequencies from their equilibrium values become important. In very small populations, these tend to bring about approximate fixation of some random combination of genes. While selection pressure is less effective in small population than in large ones, mutation pressure remains the same. Random mutations are more likely to be degenerative than adaptive. Long continued reduction in the size of a population is likely to lead to extinction. Conditions vary in intermediate and large populations.

Dr. Wright emphasizes that he is not concerned in his discussion with local races as incipient species. As long as isolation is incomplete the races are bound together by cross-breeding and thus are carried along by the evolution of the species as a whole although subject to the minor kaleidoscopic changes in character which according to his theory plays a major role in the evolution as a whole. The cleavage of species depends on virtually complete isolation of portions of the species from each other. Even if they are not significant in character differences at the time of separation and even if conditions remain substantially the same for the two portions, the process he describes will insure that they drift apart.

He concludes with this statement: "Finally it may be said that the more detailed knowledge of heredity and mutation that is now available confirms Darwin's general contention that evolution is a process of statistical transformation of populations.

In another contribution, entitled "Genetics of Natural Populations VII The Allelism of Lethals in the Third Chromosome of *Drosophila pseudoobscura*" (*Genetics* 27:363-364, 1942) S. Wright, T. Dobzhansky, and W. Horvitz analyse the breeding structure of wild populations. They utilize three constants but suggest others are undoubtedly required. They consider the effective size of the popula-

tion, the breeding coefficient which measures the departure from random mating, and the migration index which measures the extent to which there is replacement in each generation by immigrants drawn from a population sufficiently large that each lethal is at its equilibrium frequency.

#### MAN'S RELATIONS

Dr. Ernest Hooten has written *Man's Poor Relatives*, published by Doubleday Doran, 1942. Dr. Hooten presents the whole natural history and evolution of the primates: their origin, their habitats, their physical characteristics, their social organization, their individual life histories, and the relationships of one group to another and to the human race as well as man's poor relations and predecessors, from whom man has had the good fortune to inherit a high intellectual potential preserved through many evolutionary changes. In his introduction Dr. Hooten heads the chapter "An anthropologist looks at the primates and then looks back at himself." The manner in which he handles the factual material of his book may be stated from his first chapter on the apes which he calls the aristocrats. His first member is the Chimpanzee which he calls the extravert ape. He presents their habitat, the species, and varieties. He discusses their various structural characteristics; then presents "The chimps at home" giving a picture of the manner of walking, the making of their nests, their feeding, defecation, social life, and their noise making abilities. He describes their sex cycle and mating behavior, their term of pregnancy and parturition, their maternal care and growth. Later sections take up old age and longevity. Their social behavior gets a lengthy treatment and is concerned with their companionship, food sharing, sex appeal in females, rape and sexual perversions. Their use of tools reveals much of their mental processes which are also estimated by a special group of experiments such as multiple choice, delayed responses, and patterned string problems. Dr. Hooten discusses their



memory, temperament and emotions, pathology and anatomy. The long extended studies are compared for the Gorilla, the Orang-Utan, the Gibbon, the Baboon, the Macaques, the Rhesus monkey, and the lesser primates.

#### THE MAYA AND THEIR NEIGHBORS

The above is the title of a book containing 33 essays and a conclusion on the Maya. The first essay on "The Origins of American Indian Race Types" by W. W. Howell of the University of Wisconsin points out that there is a wide difference of opinion among anthropologists concerning the type or types of the men which migrated to America from northeastern Asia, but no one doubts that the Indians came from Asia where they were mainly allied with the Mongoloid stock and that they crossed to America by way of Bering Straight, spreading from this point throughout the New World. Two general viewpoints emerge as to their probable racial origins. One view is that the basic stocks came from far distant areas in Asia and are composed of a greater intermixture of peoples; the other view which is not radically different believes that most of the interacting stocks came from a more restricted area, closer to northeastern and central Asia, but before the present inhabitants of these areas were as clearly defined as they are now. The primitive East Asian stock which migrated had some Caucasoid but no Negroid nor Australoid elements.

In the concluding essay by A. L. Kroeber, it is stated that it is possible to go a step farther and seek the origins of the several American elements within America itself. He would allow for a fairly heavy ingredient of internal differentiation on American soil in addition to the already existent differentiation at the time of migration. These valuable summary essays on our present knowl-

edge of native Americans were written by the students of Alfred Marston Tozzer of Harvard University and published by the D. Appleton-Century Company, Inc., 1940.

#### ITEMS BY TITLES

"Biological Adaptations," *Scientific Monthly* 55:391-402, 1942, written by Th. Dozhansky; "On the Interpretation of Radiation Experiments in Genetics," *Quarterly Review of Biology* 17:244-252, 1942, by U. Fano; "Where Does Adaptation Come In?" in *American Naturalist* 76:433-444, 1942, by F. B. Sumner; "Biological Sociology in Denison University Bulletin Journal of Scientific Laboratory" 34:146-155, 1942, by A. E. Emerson; "Some Aspects of Evolutionary Theory" in Fort Hays Kansas State College Studies, General Series 4:113-167, 1942, by G. M. Robertson; "Two Decades of Evolution Theory," by A. F. Shull in the *American Naturalist* 74:171-178, 1942.

#### ON HUMAN GENETICS

The following papers were presented at Dallas and were published in the *American Naturalist* 74:113-170, 1942: W. W. Cort, "Human Factors in Parasitic Ecology"; L. H. Snyder, "The Mutant Gene in Man"; C. W. Cotterman, "The Biometrical Approach in Human Genetics"; H. H. Strandskow, "The Genetics of Human Populations"; L. S. Penrose, "Future Possibilities in Human Genetics."

#### ON THE ORIGIN OF LIFE

Dr. Charles M. Breder, Jr. of the New York Zoological Society said in his introduction to a "Contribution of Evolutionary Hypotheses in Reference to the Origin of Life" in *Zoologica* 27:131-143, 1942 that it is useful to consider the various ideas that have arisen from time to time concerning the origin of life with the ideas concerning the origin of species, or evolution.

## ENTOMOLOGY

### ENTOMOLOGY

By ROGER B. FRIEND

CONNECTICUT AGRICULTURAL EXPERIMENT STATION

#### EFFECT OF THE WAR

The most significant feature of entomological work during 1942 was the effect of the war which has permeated all phases of entomology, but particularly those concerned with the protection of crops, livestock, man, and wooden structures against insect pests. The necessity for rapid transport also affected the insect quarantine regulatory work. The American Association of Economic Entomologists has a committee on coordination with the war effort which functions in directing entomological work along the most useful lines. Of the approximately 1,500 members of this Association, about 300 are now in military service, many of them officers in the Sanitary Corps of the Army.

The Government has set quotas for food production, most of them in excess of the 1941 crop yields, and this demands protection against insect pests affecting the growing crops, and the food and other materials produced, during a storage period. The grain crop has been large and storage facilities are not adequate. Unless properly protected against insect pests, stored grain deteriorates rapidly. It is estimated that efficient protection against warble flies alone would result in a sufficiently increased supply of beef and leather.

The protection of man against insect pests, both the civil population and the military, is an acute problem. Malaria, yellow fever, and filariasis are examples of diseases the causal organisms of which are transmitted by insects in the tropics. Typhus, a disease associated with the presence of lice, has been the scourge of armies in the past and is a threat at present. Even such venomous biters as mosquitoes and stable flies affect the war effort.

The construction of many new wooden buildings, both in defense

areas and in military reservations, has made it necessary to devote considerable attention to termite control.

#### INSECTICIDE SUPPLY PROBLEM

The insect control program is dependent for its success on an adequate supply of insecticides, and this supply is being restricted for several reasons. Rotenone is a very important insecticide with many uses, including protection of crops, man, domesticated animals, and against household pests. One of the major sources of rotenone is in derris root produced in the East Indies, a source now held by the enemy. Another important source is cubé root from South America. This latter supply is not adequate, and the available supply of rotenone in 1943 may be as little as 50 per cent of the normal requirements. Pyrethrum is another insecticidal plant product with many uses. Most of the available pyrethrum is being used by the armed forces for the protection of its personnel. The main source of supply is Kenya Colony, Africa, and the shipping situation does not help matters. Lead arsenate and calcium arsenate are standard insecticides about which the supply situation, although good, is somewhat uncertain. Arsenic has military uses. Moreover, the production of cotton demands the use of an enormous amount of calcium arsenate, and an outbreak of cotton pests increases this demand while at the same time it decreases the supply of lead arsenate. The use of several other chemicals for insecticidal purposes is more or less restricted.

To meet the insecticide situation the entomologists are investigating the feasibility of reducing the dosages used and of the use of alternates for those materials which are scarce. The rotenone shortage is being partly compensated by the reduction of the

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content of dusts for crops to 0.5 per cent. This can be done with very little reduction in degree of insect control attained, particularly if the proper diluents are used. Moreover, the use of rotenone is rigidly restricted to the protection of certain crops. The nicotine sulfate supply is being increased and is adequate. This insecticide will probably be more widely used in the near future. The uses of lead arsenate may undergo regulation, and cryolite may be substituted for it where possible.

### AEROSOLS

One of the most outstanding contributions in the insecticide field has been the development of aerosols, for protection against mosquitoes and other flies, by the Bureau of Entomology and Plant Quarantine of the U.S.D.A. Pyrethrum extract is dissolved in a very volatile substance, in this case Freon 12 (dichlorodifluoromethane), commonly used as a refrigerant, and stored in metal cylinders under about 85 pounds pressure. By merely opening a valve the contents of the cylinders are dispersed as a cloud throughout the space to be treated. The solvent, which is not injurious to man and is non-inflammable, evaporates and the insecticidally active material is suspended as very fine particles like a smoke. These cylinders, or "bombs," are being used by the Army in foreign service and admirably fit its needs. They are also ideal for ridding airplanes of insect pests. Other aerosols, produced by volatilizing the active ingredients by heat, have also been developed.

### MEDICAL ENTOMOLOGY

In the field of medical entomology, the determination that poliomyelitis (infantile paralysis) is distributed by non-blood-sucking flies is of great significance. Mosquito control in and around military reservations is an important feature of military sanitation. Efficient methods of controlling the stable fly ("dog-fly") in Florida have been developed. This insect is

a very noxious pest of man and domesticated animals in that state.

### AGRICULTURAL PESTS

The status and distribution of several major pests of agriculture changed more or less during the year. The European corn borer spread westward into Iowa and Missouri, and the infestation in Illinois increased in intensity. The resistance of certain hybrid strains of corn to the borer is being investigated. The white-fringed beetle spread northward into North Carolina and became more widely disseminated in the old infested area. The Dutch elm disease, transmitted by elm bark beetles, is more widely distributed. To the north it has spread in Massachusetts. The gypsy moth became established beyond the Barrier Zone west of Albany, N. Y. An attempt will be made to eradicate this infestation. In the western part of the United States the alfalfa weevil apparently spread to the limits of the region to which it is ecologically adapted, and the Western Plant Board recommended the revocation of the state quarantines against this pest. This recommendation was followed by the states concerned. The oriental fruit moth, a very serious pest of peaches, quinces, apricots, and some other fruits in central and eastern United States, has become established in California.

### ANATOMY

The electron microscope has been successfully used in studying the structure of the insect tracheal system, particularly the distribution of taenidia.

### ENTOMOLOGICAL MEETINGS

The 16th Annual Western Cooperative Spray Conference met at Portland, Ore. Jan. 21-22, 1942. The Pacific Northwest Truck Insect Control Conference met at Walla Walla, Wash. Feb. 2-3, 1942. The North Central States Entomologists met at Urbana, Ill. March 26-27, 1942. A meeting of the Georgia Entomological Society was held at Atlanta, Ga. April 4. The 27th annual meeting of

the Pacific Slope Branch of the American Association of Economic Entomologists was held at Salt Lake City June 17-18. The 14th annual meeting of the Eastern Branch of this Association was held at New York City Nov. 19-20. The 6th Annual Pest Control Operators Conference was held at Lafayette, Ind. Jan. 5-9, 1942; the 2nd Eastern Pest Control Operators Conference met at Amherst, Mass. Jan. 12-14, 1942; the 4th annual meeting of the Southern Pest Control Operators was held at University, La. Jan. 26-28, 1942; the 5th Pacific Coast Pest Control Operators Conference was held at Berkeley, Calif. Feb. 19-21, 1942; the 10th annual convention of the National Pest Control Association was held at Pittsburgh Oct. 26-28. It appears possible that, because of the transportation situation, the annual meetings of the American Association of Economic Entomologists and the Entomological Society of America, scheduled for New York City Dec. 29-31, 1942, will be canceled.

## PUBLICATIONS

**Juvenile and Popular.**—*The Life of Langstroth, Master of Bee Culture* by Florence Naile (Cornell Univ. Press), a biography. *Introducing Insects* by James G. Needham (Jaques Cattell Press), popular. *Insects and Their Ways* by Bertha M. Parker (Harper), juvenile.

**Texts.**—*College Entomology* by E. O. Essig (Macmillan), an excellent textbook. *General Entomology* by S. W. Frost (McGraw-Hill), an introductory text with a behavioristic viewpoint. *Introduction to Applied Entomology* by W. J. Baerg (Burgess Publishing Co.), a textbook of economic entomology. *Cotton Insects of the United States* by V. A. Little and D. F. Martin (Burgess Publishing Co.). *Textbook of Clinical Parasitology* by D. L. Belding (Appleton-Century) includes insect parasites. *Levels of Integration in Biological and Social Systems* (Biological Sym-

posia VIII, Jaques Cattell Press), with sections on insect societies. *Chemistry of Insecticides and Fungicides*, by D. E. H. Frear (Van Nostrand); the chemistry of these materials.

**Morphology.**—*The Skeleto-Muscular Mechanisms of the Honey Bee* by R. E. Snodgrass (Smithsonian Misc. Coll., Vol. 103, No. 2).

**Special Groups.**—*A Revision of the Strepsiptera with Special Reference to the Species of North America* by Richard M. Bohart (California Publications in Entomology, Vol. 7, No. 6). *A Classification of the Scale Insects of the Genus Asterolecanium* by Louise M. Russell (U.S.D.A. Misc. Publication 424). *Beetles of the Genus Hyperaspis Inhabiting the United States* by Th. Dobzhansky (Smithsonian Misc. Coll., Vol. 101, No. 6). I *A Classification of the Genus Drosophila* by A. H. Sturtevant; II *New Species of the Quinaria Group of the Subgenus Drosophila* by W. P. Spencer; III *New Species of the Subgenera Hirtodrosophila and Drosophila* by J. T. Patterson and M. R. Wheeler (Univ. of Texas Publication, No. 4213). *A Systema Aphididae, a Guide to the Phylogeny of Aphids or Plant Lice* by O. W. Oestlund (Augustana Book Concern). *A Revision of the Libelluline Genus Erythrodiplax (Odonata)* by D. J. Boror (Graduate School Studies, Contributions in Zoology and Entomology, No. 4, Ohio State Univ.). *The North American Species of the Subfamily Gyponinae* by Dwight M. DeLong (ibid., No. 5). *Generic Relations of the Dolichopodidae (Dipter)* Based on a Study of the Mouth Parts by Sister Mary B. Cregan (Illinois Biol. Monog. No. 1, Vol. 18). *The Tribe Monochamini of the Western Hemisphere* by L. S. and E. S. Dillon (Reading Public Mus. and Art Gallery, Scientific Publication No. 1). *Atlas of Scale Insects of North America, Series IV, Family Diaspididae* by G. F. Ferris (Stanford Univ. Press).



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### BOTANY

BY WILLIS H. BELL  
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#### EVOLUTION

The work in evolution in 1942 sought to find the answer to the causes and selective forces which promote evolution. Axelrod established a concept of ecospecies in the tertiary period. Hiesey, Clausen, and Keck pointed out some relations between climate and intraspecific variations in plants, while Babcock, Stebbins, and Jenkins showed the role of polyploid complexes in relation to the ecology and history of floras and the genetic processes promoting the evolution of the genus *Crepis*. Elias listed chromatophores as evidences of phylogenetic evolution and Stebbins mentioned apomixis in angiosperms.

#### CYTOLOGY

Hollingshead and Baldwin made chromosome studies in *Sedum*; Longacre reported on the chromosomes of *Aconitum*; Kumar and Abraham listed chromosome numbers in *Carica*, and Burton made a cytological study of the Paniceae. This work shows the interest of cytologists in learning more of the phylogenetic relationship of species through a study of their chromosome complements. The interest in following the meiotic divisions in plants to discover certain behaviors aiding the evolutionary process is shown by the work of Myers and Beal on chromosomal behavior during divisions in *Lilium*. Jensen showed the relation of meiosis in *Benzoin aestivale* to the origin of sex chromosomes; Walters studied peony hybrids; and Steward and Bamford investigated the chromosomes and nucleoli of *Medeola*. Swanson observed meiotic coiling in *Tradescantia*; Eyster produced polyploids in *Tagetes*; Hecht used colchicine to induce tetraploidy in *Oenothera*; and Smith explained the cytogenetics of a factor for multiploid

sporocytes in barley. Cytologists by and large have been interested in finding the answer to various genetic and evolutionary behaviors by a study of the behavior of mechanisms within the cell. This has been the direction which cytology has taken in the past few years and is likely to follow for quite a long period in the future.

#### GENETICS

Discoveries of new characters which are inherited were reported by Whaley and others, but interest was fixed more on the method of inheritance and the patterns followed. Hartvig and Swenson followed the inheritance of growth habit, cotyledon color, and cup leaf in sweet clover; Dale explained the genetics of two factors for pigment in the flower of *Petunia*; Leonard was interested in the inheritance within the lateral spikelet of barley; and Reed reported on the inheritance of smut resistance in oats. The geneticist continued his interest in the role of the chromosome complement in relation to the inheritance of observable characters. Beasley discussed hybridization, cytology and polyploidy of *Gossypium*; Jones and Clark found two amphidiploids in onion; Shull listed new mutational segregations from *Oenothera*; and Shifriss described polyploidism in cucumber. Newcomer used colchicine to induce tetraploids in cabbage, and Smith found differences in susceptibility of *Triticum* to X-ray injury. Stout reported on interspecific hybridizations in *Hemerocallis*, and Cooper and Brink found endosperm a barrier to interspecific hybridization.

#### ECOLOGY

The work in ecology consisted of successional studies, floristic notes, drought effects and drought recovery,

paleoecology, and biotic effects. It is interesting to note that considerable investigation is being carried out on a comparison of the relative value of certain ecological tools. Albertson and Weaver gave the history of native vegetation in Kansas during seven years of drought; McIlvanie watched grass seedling establishment on overgrazed and protected ranges; Hodgson reported on the influence of height and frequency of cutting on growth of grass; and Olmstead studied the growth and development of range grasses. Daubenmire studied the vegetation of Washington and Idaho; Purser gave the ecology of certain salt marshes in California; and Lovell worked out the seasonal ecology of some Kentucky flowers. Weaver examined the competition of western wheat grass with relict prairie vegetation; Pearson reported herbaceous vegetation a factor in natural regeneration of ponderosa pine; Stoeckler and Limstrom found the role of certain ecological factors and their influence on reforestation in Wisconsin; while Maloney studied succession on coal-stripped land in Oklahoma.

Went showed the dependence of certain annual plants on the growth of desert shrubs; Smith found locust and walnut to influence the growth of grass in Ohio; and Daubenmire and Charter reported on the behavior of woody desert legumes at the wilting point. Hansen listed the influence of volcanic eruptions upon post-Pleistocene forest succession in Oregon; Joffe recorded the climatic sequences of the Post-Wisconsin glacial age; Sears mentioned the forest sequences that have appeared in the north central states; and Hansen studied pollen in Oregon lake deposits. Ellison made a comparison of methods of quadratting short grass vegetation; and Anderson ran a comparison of line transects and permanent quadrats in evaluating composition and density.

Scully correlated root distribution and environment in a maple forest; Smith pointed out effects of contour furrowing on vegetation in West Virginia; Glendening studied germination of native grasses in relation to

litter cover and soil moisture; and Marks made observations on land use and plant succession in Wisconsin. Weaver and Mueller showed the role of seedlings in recovery of ranges following drought, and Allard showed a lack of phosphorus prevented normal succession in Virginia. Oasting and Billings studied succession in North Carolina; Glock showed some responses of trees to climate; and Timmons found prickly pear to be spread by jackrabbits.

### TAXONOMY

Gustafson made notes on the alga flora of Michigan; Prescott and Scott identified the desmids from Mississippi; and Croasdale worked on the algae of New England.

Much taxonomic work was done on the fungi. Outstanding is that of Long on the gasteromycetes, Karling on the plasmodiophorales, and Miller and Burton on the pyrenomycetes. Many new species of fungi were described, distributional studies published, life histories established, and cultural characteristics of many forms noted. Type studies were made and genera and families revised.

Conard reported on the liverworts of Iowa, and Sture listed pleistocene mosses from the same state. Blake studied fern floras of the United States, and St. John gave the habitats and distribution of *Ophioglossum* in Florida.

The taxonomic work among the angiosperm plants was voluminous and varied. New species were described, genera monographed, and phylogenetic relationships established. Checklists and local floras were common, changes in nomenclature were reported, and new arrivals in North America published. Distributional studies were made for many species and genera and floristic spectra of a number of associations recorded.

### MORPHOLOGY AND ANATOMY

Barkley studied the formation of gemmae in *Funaria*, and Studhalter and Thompson reported on various phases of development in *Riella*. Eames described the gametophytes of

a number of species of *Lycopodium*, and Stokey studied the development of the gametophytes of *Marattia* and *Macroglossum*. Cross gave the structure of the apical meristem and followed leaf development in *Cunninghamia lanceolata*. Van Fleet worked out the development and distribution of endodermis and an associated oxidase system in monocotyledons; Williams reported the characteristics of the secondary vascular system in oaks; Doyle examined the anatomy of *Arctostaphylos viscida*; Gumbles made comparative studies on the secondary xylem of *Celtis*; and Cheadle observed the various vessel types in monocotyledons. Bucholz made a comparison of the embryology of *Picea* and *Abies*; Merry watched embryo development of *Hordeum*; Riley did the same for the ovaries of *Iris*; Thompson did morphological comparisons in the carophyllaceae; and Smith worked out the anatomy of the inferior ovary of *Darbya*; while Cooper examined ovule development and formation in *Plantago lanceolata*.

Bailey and Berkley reported the significance of x-rays in studying the origin of cellulose in the secondary walls of tracheids and the cell wall structure and its shrinkage in cotton fibers. Sinnott continued his studies on comparative rates of division in large and small cells by examining division in developing cucurbit ovaries, and Bindloss gave a developmental analysis of cell length as related to stem length. Smith investigated adventitious root origins in stems of nasturtium; Johann worked out the origin of suberized membranes in the corn grain; Jones and Pope analyzed the adventitious roots on the panicle of rice; and Brumfield examined cell growth and division in root meristems. Cockrell made an anatomical study of 80 Sumatran woods, and Paul found variation in the porosity of 12 species of oak. Duncan and Curtis explained the intermittent growth of fruits of *Phalaenopsis*; Purer made anatomical and ecological studies of *Ammophila*; and Moreland and Flint explained the de-

velopment of vascular connections in the leaf-sheath of sugar cane.

### PHYSIOLOGY

Hoagland and Broyer studied the accumulation of salt and its effect on the permeability of plant cells; Shafer reported on rate of waterloss from excised leaves; Diachun explained stomatal behavior in tobacco; and Brain gave some effects of prolonged rotation of plants on a horizontal klinostat. Fuller and Thuermer observed some quantitative aspects of photoperiodism, and Schneider reported on the nastic and traumatic responses in the pea test. Evans made microscopical examinations of developing corn starch, and Mechener reported on dormancy and apical dominance in potato tubers. Curtis gave a new method for determination of carotene; Post and Laudermilk found a new microchemical reaction for cellulose; and Hubbard explained spectrographic methods for determining distribution and mobility of elements in plants. The use of the spectrophotograph and the use of the tracer-elements is destined to become of increasing importance in physiology.

### ADSORPTION AND NUTRITION

Sommer and Baxter found some growth limitations induced by deficiencies of magnesium and other minor elements; Albrecht, Graham, and Sheppard established surface relationships of roots and colloidal clay in plant nutrition; Arnon listed the need of molybdenum for growth; and Brewer showed the usefulness of isotopes as tracers to follow the course of an element. Eaton correlated toxicity with the accumulation of chloride and sulfate salts in plants; Hayward and Blair sought the response of orange seedlings to varying concentrations of chlorine and hydrogen ions; Overstreet and co-workers reported on cation absorption; while Powers, Alexander, Muhr, and Chandler gave the role of boron in plants. Lyon and his co-workers studied macro-element nutrition of tomato as correlated with fruitfulness and disease in tomato; Mullison made obser-

variations on tomato nutrition; and Barker and Broyer found micro-organisms to influence manganese nutrition.

## AUXINS AND GROWTH HORMONES

A large number of workers continued work on various phases of this subject. The effect of auxins on opening of buds, their influence on pollen growth, their concentration in relationship to fruitfulness and place of storage were all analyzed. New chemical hormones and their effects were noted, and soils were analyzed for the presence of growth and influencing substances. Methods for isolating and estimating the amount of hormone in tissues were devised, and distribution in the plant followed.

## GERMINATION AND DORMANCY

Lute made observations on germinating alfalfa seed; Eyster showed how to condition the seed of beans; and Bond used colchicine to promote germination in *Petunia*. Justice recorded dormancy in the seeds of *Pelargonium*; Gray and Fuller found mercury vapor to affect seed germination; and Sell and others used chemical treatments to prolong the dormancy of twig buds.

## GROWTH, DEVELOPMENT, AND REPRODUCTION

A large number of investigators made cultures of the excised roots, embryos, and floral organs. Influence of soil temperature, soil oxygen, and length of day on growth rates were observed, and the effect of hormones and auxins on growth and development were assayed.

## VITAMINS

A more cautious note is seen in the work with vitamins, and there has been some shift from work emphasizing the effect of vitamins on plant growth towards investigations on the vitamin content of plant tissues, their location, and movement within the plant. Some of the titles of articles appearing were the effect of vitamin B<sub>1</sub> on growth of rice, transport of

thiamin in tomato plants, environmental effects on the accumulation of ascorbic acid in cowpeas, guanine and factor Z as a growth substance for phycomycetes, riboflavin in excised roots, effect of mineral nutrition on the ascorbic acid content of tomato, and vitamins in fungi.

## PIGMENTS AND PHOTOSYNTHESIS

Murneek studied sexual reproduction and carotinoids in plants; Weier made cytological examinations of carotene in carrot roots grown under different conditions; Went and others gave the effect of external factors in tomato pigments; and Hiller and Hood examined the nitrogen and carotene partition in alfalfa. Strain and Manning listed chlorofucine as a pigment of diatoms; Zscheile mentioned various plastid pigments; and Haskin proposed a spectrographic method for analysis of chloroplast pigments.

Steinberg, Ballard, and Franks studied carbon dioxide in relationship to photosynthesis; Emerson and Lewis set forth the possibility of carotinoid participation in photosynthesis; and Sargent and Burns analyzed the effect of quality and intensity of light on photosynthesis.

## RADIATION EFFECTS

Whitaker found ultraviolet light to affect the development of *Fucus* eggs; Naylor reported on the effect of fluorescent light; Giese stated that ultraviolet stimulated the respiration of yeast; and Zirkle noticed significant differences in the x-ray sensitivity of various species of yeast. Gaffron and Rubin produced hydrogen photochemically in green algae; Dinger measured the absorption of radiant energy; while Weintraub and McAlister found light to inhibit growth of the mesocotyl of oats.

## PHOTOPERIODISM

Stuckey studied the effect of photoperiod on leaf growth; Skok found length of day and temperature to influence opening of dormant buds; and Werner discovered length of day and light intensity to influence flowering



in potatoes. Greulach found some after effects of length of day in certain composites, and Mann listed the effects of photoperiod on sex expression in ragweed.

#### ENZYMES AND RESPIRATION

Newton listed the properties of soybean amylase; Davis gave the distribution of citrus peroxidase; and Denny was able to inactivate the browning in frozen fruits. Shaw published respiration studies made on developing apples; Merry and Goddard carried on respiratory analyses of barley seedlings; and Rankin and Brooks studied the respiration of *Elodea*. Glasstone passed air through plants to observe its effect on respiration; Hansen watched ethylene production in relation to respiration of pears; Denny and Thornton found environment and carbon dioxide to affect the sugar content of potato tubers; Taylor studied the effects of oxygen on growth and respiration of wheat and rice; while Selzer and Baumberger found that metallic mercury influenced respiration in cells.

#### CARBOHYDRATE AND NITROGEN METABOLISM

Dawson followed the accumulation of nicotine in grafts of tobacco and tomato; Talley listed factors influencing inorganic nitrogen by root fungi; Steinberg gave the effect of trace elements in the growth of *Asperigillus* with amino acids; and Herrick continued work on the nitrogen metabolism of *Stereum*. Ulrich watched organic acid metabolism in excised barley roots as influenced by temperature, oxygen, and salt concentration; Pickett followed the carbon assimilation of yeast; Carum described the carbohydrate nutrition of *Rhizopus*; and Miller induced the formation of B-glucoside in radish.

#### CHEMICAL CONSTITUENTS AND TOXICITY

Weaver watched the response of

beans to chlorates; Hirsch observed toxic effects of chemicals on water hyacinth; and Trelease worked with *Astragalus* in relation to selenium content. Morris extracted lechenin and araban from oats; Robinson and Edgington measured the boron content of hickory; Todd determined the phosphates in corn grains; while Weihe and Phillips, Anderson, and others observed the hemicelluloses in corn stalks and cottonwood. Lyons examined the structure of cellulose by use of x-rays, and Carlter and Hopper found variety, environment, and fertility to influence the composition of soybean seed.

#### PATHOLOGY

New fungal, bacterial, and virus diseases were described. The cultural characteristics of pathogenic fungi were watched and control methods established. The nature of bacterial actions within the host plant were analyzed and comparisons made between bacterial effects and those induced by various chemicals. New methods for nematode control were sought. The literature on viruses was heavy. New virus diseases were described, the nature of the virus, its size and characteristics observed, and the abnormal reactions produced within the host followed. Methods for assaying the amount of virus present were designed, resistant varieties were sought, means of transmission from host to host were examined, and control measures were designed. The various viruses themselves were cultured and carefully studied, and nomenclature for them was developed. Interest continued in abnormalities caused by mineral deficiencies, especially boron and climate. Hosts were examined for varietal resistance, and the pathogenicity of various organisms was measured. The influence of environment on host resistance and pathogenicity was observed, and new control measures were designed.

# ECONOMIC BOTANY

## ECONOMIC BOTANY

By H. K. WILSON

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### GRASSES IN SUBMARGINAL LAND TRIALS

One of the major problems of agriculture has been the reclaiming of submarginal lands whose native vegetation was destroyed through the unwise practice of attempting to grow grain crops in regions of insufficient rainfall. The reseeding of these areas to adapted species has occupied much of the time of those interested in reclamation.

Bridges (*New Mexico Sta. Bul.* 278, 1941) reports on a series of trials covering the period 1935-40 on the New Mexico College ranch near Las Cruces. This ranch has an altitude of 4,300 feet, a mean annual temperature of about 60° F. and an average annual precipitation of about nine inches.

Rothrock grama, blue lovegrass, and Lehmann lovegrass produced good stands from seedings made in each of the years 1938, 1939, and 1940. The Lehmann lovegrass, an introduction from South Africa, appeared very promising, being able to establish itself even in years of subnormal rainfall; also, it has the ability to reseed readily and produces large forage yields. Rothrock grama yielded well, succeeding under ranch as well as native range conditions. Blue lovegrass yielded as high as 329 pounds of air-dry forage per acre, a yield lower than that of Rothrock grama or Lehmann lovegrass, but comparing favorably with the ordinary native range grasses. Of most of the 118 other species of grass tested, few proved promising. Further tests are being made of some 30 species.

Germination studies showed that most of the southwestern native grasses gave a high percentage of germination. The author believes failures to secure good stands were

due to poor conditions in the field rather than lack of viability.

Seedbed preparation and seeding methods showed that listing on the contour with a horizontal interval of from three and a half to five feet appeared most satisfactory. The use of a two-row lister followed by a six-foot drill made it possible to complete the seeding operation in one trip over the area. Planting depths from 0.25 to one inch deep were satisfactory. The entire cost of reseeding, including the laying out of contours, seed, and all mechanical operations ranged from \$1.00 to \$1.50 per acre.

### ALFALFA

Alfalfa is an extremely important hay crop in many parts of the United States. Tysdal and Kiesselbach (*Nebraska Station Bul.* 331, 1941) review the alfalfa situation in Nebraska. They discuss the importance of subsoil moisture, rotations, uses of alfalfa, varieties, and practices of production.

Of the varieties tested, only Hardistan has proved resistant to bacterial wilt, although Nebraska Common, Northern Common, Grimm, Baltic, Cossack, and Ladak have proved superior to southern domestic and foreign varieties. Of the varieties tested, Cossack, Baltic, Hardigan, Kansas Common, Utah Common, South Dakota Common, German, and Hungarian have equaled or surpassed Grimm in yield, while Orestan, Hardistan, Kaw, and Turkistan were superior to Grimm in stand longevity.

### TOBACCO

The Second World War has given a new impetus to the tobacco industry. Matthews and Hutcheson (*Virginia Station Bul.* 329, 1941) report on experiments with flue-cured tobacco. Their investigations made at Chatham, Va. from 1927-39 dealt

with soils, rotations, varieties, seedling, fertilizers, spacing, yield, curing, and related problems.

Flue-cured tobacco gives satisfactory yields on well-drained, properly aerated soils which are easily cultivated, such as Durham, Granville, Norfolk, Appling, and deep phase Cecil sandy loams, soils having yellow or light-red subsoils sloping sufficiently to drain quickly after rains.

Best rotations for high-quality leaf include considerable organic matter from non-legumes. Good rotations are tobacco, small grains, and grass hay or weeds, tobacco and small grains followed by rye to be plowed under, and tobacco continuously with rye as a winter cover crop to be plowed under preceding the tobacco.

The best varieties of flue-cured tobacco were Yellow Mammoth, White Stem Orinoco, Yellow Pryor, Virginia Bright, and Gold Dollar.

On good tobacco soils, a fertilizer analyzing 3 per cent nitrogen, 10 per cent phosphoric acid, and 6 per cent potash applied at a rate of 1,000 pounds per acre gave satisfactory results. On heavier soils the rate may be lowered to 800 pounds per acre or the percentage of nitrogen reduced. Fertilizers should be applied in bands on each side of the row or by running a wide single-shovel plow through the fertilizer drilled in the row, before listing or bedding the land. If additional nitrogen or potash is added later, it should be applied as a side dressing at the first or second cultivation.

### CORN

Today hybrid corn varieties have largely replaced the old open-pollinated varieties formerly grown in the corn sections. Within a very short time the old varieties will have disappeared as farmers can no longer afford to grow them. The value of hybrid corn is an established fact, providing one of the best known examples of pure or fundamental research being so applied as to prove of great economic value.

The methods of developing hybrid seed corn and its distribution to farm-

ers is a major problem. Borgeson and Hayes (*Jour. Amer. Soc. Agron.* 33: 70-74, 1942) have contributed valuable information in an article dealing with the Minnesota method of seed increase and seed registration for hybrid corn.

The Minnesota Agricultural Experiment Station cooperates with the Minnesota Crop Improvement Association in the increasing of hybrid seed stock. The policies of increase and distribution are in charge of a Corn Committee composed of six members of the Experiment Station working on the corn projects. The members of the Crop Improvement Association provide isolated seed plots for the increase of seed stocks under contract with the Experiment Station. The financing of the entire program is made possible through a revolving fund maintained by the sale of pure seed of all kinds, including hybrid seed stocks.

Various methods of increase have been tried and a final plan evolved as based on past experiences. Hand-crossed and selfed seed of all inbred lines needed are planted each year in foundation plots at both the Southeast Branch Station and at the Central Station. The authors summarize the plan as follows: "When an inbred line seems relatively homozygous, sufficient selfed seed of each inbred is produced each year to plant the necessary single cross plots the following year. The seed planted for the selfing plot is obtained the preceding year from hand-pollinated crosses made by crossing the progeny of 'ear-to-row' cultures within the inbred lines produced from selfed ears."

The major part of the single crosses have been produced under contract with individual farmers. Under a new plan the grower is permitted to retain a share of the seed stocks produced as a part of the contract. The balance of the seed is given to the Experiment Station for sale to growers. It is possible for producers of single crosses to exchange seed stocks by making necessary arrangements with the seed certifying official of the Minnesota Crop Improvement Asso-

ciation. Small plots for the increase of advanced generation seed are grown under an acre rental or unit payment plan.

Previous experience leads the authors to believe that it will be necessary to provide hand-pollinated seed each year for the single cross plots. They believe that the plan outlined will provide for the desired purity and quantity of hybrid seed needed to meet the demands of the growers.

The Minnesota Crop Improvement Association recognizes two general classes of hybrid corn seed, namely, Registered and Certified, with two grades of Registered seed, No. 1 or blue tag and No. 2 or red tag. The grades are based on standards of germination, purity, grading and moisture. To qualify for registration, seed must have been produced from seed stocks obtained from the experiment stations of Wisconsin or Minnesota. Inbred lines and single crosses controlled by seed companies may be certified only. Commercial hybrids to be eligible for certification must have been tested three years in the state yield test and have proved satisfactory. Field inspection requirements are the same for both Registered and Certified seed.

### OATS

Breeding for disease resistance is one of the major problems of the man engaged in plant improvement. Murphy, Stanton, and Coffman (*Jour. Amer. Soc. Agron.* 34: 72-89, 1942) give a complete report of the present status of breeding for disease resistance in oats.

The major diseases of oats in the United States are loose and covered smuts and crown and stem rusts. According to estimates by the U. S. Department of Agriculture, for the period 1919 to 1938, the annual loss in the United States from smuts amounted to about 3.5 per cent or approximately 40,000,000 bushels of oats. During this same period the estimated losses from rusts were about 37,000,000 bushels.

The United States Department of Agriculture and several of the state

agricultural experiment stations are engaged in oat improvement. Valuable breeding materials are available. For smut resistance the following varieties are available:

Victoria, highly resistant to all known races of smut, Markton and Navarro highly resistant to all but certain rare races, and Bond and Black Mesdag, resistant under most field conditions.

Bond and Victoria are highly resistant to most of the races of crown rust. Rainbow, Alber, and Capa, while classed as moderately resistant, do afford considerable protection in many sections.

Richland, Iogold, and Rainbow are very resistant to all races of stem rust of apparent economic importance. The White Tartar variety was resistant under certain field conditions while Jostrain (Joanette strain) is classed as moderately resistant.

Crossing within the above groups of varieties has resulted in many new strains. Among the new agronomic smut-resistant varieties are Carleton, Bannock, Marida, Huron, Uton, Fulgrain, and Fulton.

Vanguard, a comparatively new stem-rust resistant variety has proved susceptible to crown rust.

Among the recently developed smut- and stem-rust resistant named varieties are Nakota (hull-less) and Hancock. More resistant to the smuts and crown rust are: Fultex, Ranger, Rustler, Rangler, Letoria, Lelina, Lenoir, Levic, Lega, De Sota, Coker-Stanton, Victorgrain, and Fulgrain Strain 4.

Probably the most promising varieties are those possessing resistance to the smuts, crown rust, and stem rust. The named varieties include Marion, Boone, Tama and Vicland.

A new and promising variety of oats has been named Miomark by the South Dakota Agricultural Experiment Station. Swenson (*South Dakota Sta. Cir.* 32, 1941) reports that Miomark was developed from the backcross of a selection of the cross Iogold x Markton to Markton. The variety is early maturing, has white grain, is highly resistant to



local races of loose and covered smut and resistant to the most prevalent races of stem rust but is susceptible to crown rust.

### WHEAT

The effect of environment on wheat quality was studied in North Dakota (Waldron, Harris, Stoa, and Sibbitt, *North Dakota Sta. Bull.* 311, 1942). They found that the high-maximum and minimum temperatures for the 10-day pre-heading period were associated with greater loaf volume of the break baked from the wheat. However, only the high maximum temperatures were associated with high protein. No relationship was noted between protein content and rainfall, although rainfall was not high during the period of the investigations, 1937-40.

### SOYBEANS

The demand for essential vegetable oils led to a great increase in soybean acreage in 1942. Not only did the states normally growing large quantities of soybeans increase their acreages but the more northern states planted more soybeans than usual. A relatively early freeze prevented complete maturity of many fields of beans. An article by Wolfe, Park and Burrell (*Plant Physiology*: 17: 289-295, 1942) is timely. The authors studied the composition of four varieties of soybeans at different stages of development. Their results indicate that the fat and protein of the seed are probably produced largely from substances brought into the seed from other parts of the plant at the time of synthesis, rather than from the carbohydrates already present in the seed.

Cartter and Hopper (*U. S. Dept. Agr. Tech. Bul.* 787, 1942) report on studies of the influence of variety, environment, and fertility level on the chemical composition of soybean seed.

Ten representative varieties were studied. In all it appeared that the percentages of carbohydrate, nitrogenous, lipid, and mineral constituents of the beans were influenced by

the physiological vigor as controlled by the environment during the entire growth period of the plant. The authors believed that the iodine number of the oil was depressed by high environmental temperatures and raised by low temperatures. It appeared that the oil content was most specifically a varietal characteristic and that the iodine number was about equally influenced by variety and climate.

In general no large variations in the percentages of crude fiber in the seed and unsaponifiable matter in the oil were observed.

Soybeans grown at high temperatures were higher in calcium content. Total ash, phosphorus and potassium content of the seed appeared to be influenced more by soil type and fertility than by variety or climate. The level of fertility affected yield but showed no apparent effect on the oil and protein content or the iodine number of the oil.

The studies showed that soybeans appear to inherit their characteristic chemical composition and that progress in breeding offers greater possibilities in obtaining desired chemical composition as well as for yield and other agronomic factors than varying environmental conditions.

### PLANT NUTRITION

Within recent years increasing attention has been given to studies of the so-called minor elements of plant nutrition. No longer do scientists accept the 10 essential elements, as given by the great soil scientist, C. G. Hopkins, as the only ones required for plant growth.

Boron, one of the minor elements of plant nutrition, has been investigated by several workers. Dregne and Powers (*Jour. Amer. Soc. Agron.* 34: 902-12, 1942) report on studies of the effect of boron fertilization on alfalfa and other legumes in Oregon.

The soils investigated were in the Willamette Valley of Oregon. It was suggested by the authors that the amount of boron in normal alfalfa was above 20 p.p.m. while one p.p.m. of available boron appeared to be the

minimum desired for the surface seven inches of soil under the conditions of their trials. Most of the soils west of the coastal range in Oregon appeared to be low in boron content.

Control of yellow-top disease of alfalfa was effected through the use of 30 pounds of borax to the acre. It is proposed that it may be desirable to use as much as 60 pounds to the acre. The boron may be applied to alfalfa meadows as granular borax broadcast at the rate of 30 to 60 pounds per acre. In the dry sections fall applications were preferable while in the more humid parts of Oregon spring treatments were best. A treatment of 30 pounds per acre was effective for about three years.

Many of the weaknesses of plants as evidenced by disease susceptibility have been traced to malnutrition. The American Society of Agronomy and the National Fertilizer Association have published a book (*Hunger Signs in Crops*, 327 pages, Judd and Detweiler, Washington, D. C., 1941), which is a symposium prepared by George M. Bahr, Bailey E. Brown, Arthur F. Camp, H. D. Chapman, H. P. Cooper, O. W. Davidson, Ernest E. DeTurk, George N. Hoffer, Henry A. Jones, James E. McMortrey, Jr., Edwin R. Parker, Robert M. Salter, George D. Scarseth, and Joshua J. Skinner. The book was edited by Gove Hambidge.

This splendid book deals with the major nutrition problems of crops, reviewing the known information from the simple requirements of plants to the more complex deficiencies as evidenced by plant response. The nutrient requirements of the different groups of plants are discussed in separate chapters. Complete discussions are given for tobacco, corn, and small grains, the potato, cotton, vegetables, fruits, and legumes. This book fills a long felt need for adequate information on the subject.

#### WEED CONTROL

With the demand for increased food production there is need for better control of those plants known as

weeds which interfere with and reduce the yields of crop plants. In a recent bulletin, Wilson, Arny, Stahler, Harvey, Larson and Landon (*Minn. Agr. Exp. Sta. Bul. 363*, 1942) report on weed control work undertaken in Minnesota.

Trials in the control of perennial weeds showed that quack grass may be eliminated gradually by following two- to five-year rotations, including a cultivated crop, if the necessary tillage is given beginning in August preceding the year the field is to be in the intertilled crop.

Intensive trials at Lamberton, Minn. demonstrated that field bindweed may be eradicated in two to three years by a full season of cultivation with a duck-foot cultivator followed by rye or winter wheat seeded about Oct. 15. An interval of two weeks between cultivations with the duck-foot cultivator proved more effective than continuous tillage.

One of the most economical methods of eradicating field bindweed was to combine tillage with cropping practices. Cultivation until July 1, followed by sudan grass, millet, sorghum or soybeans, proved very effective. A season of cultivation followed by rye, or winter wheat where adapted, followed in turn by harvest of the grain and a repetition of the first year's program, gave good results at the Lamberton Station.

The best chemical for the destruction of persistent perennial weeds was sodium chlorate. Trials in Watonwan and Redwood Counties show that late summer or fall applications gave best results. Under the conditions of southwestern Minnesota about 500 pounds of chlorate per acre proved most efficient. The application of the dry salt proved equal in effectiveness to the spray method.

A sodium salt of di-nitro cresol (Sinox) was effective in the control of the mustards, wild buckwheat, wild radish, and ragweeds growing in flax fields.

Crabgrass, dandelions, and mouse ear chickweed were destroyed by treatment with one-half gallon of

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water-white kerosene (color Saybolt 23) applied as a spray to each square rod.

Field bindweed was eradicated in two to three seasons on areas seeded to rye or winter wheat and pastured with sheep until the middle of June, followed by summer fallow and the seeding of rye on Oct. 15. Sheep ate leafy spurge and may be used to destroy the weeds if grazing is intensive.

Welton and Carroll (*Ohio Sta. Bul.* 619, 1941) report on the control of lawn weeds. They were able to kill crabgrass by making six weekly applications of a 0.5 per cent solution

of sodium chlorate at the rate of 10 gallons per 1,000 square feet begun June 19 when the seedlings had but one or two leaves. The period when the lawngrass was discolored was shortened by delaying treatment until late August or Sept. 1 when two applications of a 1 per cent solution a week apart or one application of a 2 per cent solution was needed. Other practices recommended for controlling crabgrass were the use of lead arsenate, shading with mulch paper for 10 days, raking and cross-mowing in late summer, and clipping grass at a two-inch height, combined with adequate fertilization.

## PERIODICAL PUBLICATIONS

### *American Botanist*

5257 Hinesley Ave., Indianapolis, Ind.

### *American Journal of Botany*

Botanical Society of America, 1086 N. Broadway, Yonkers, N. Y.

### *American Naturalist*

3941 Grand Central Terminal, New York City.

### *Annals of the Entomological Society of America*

Ohio State University, Columbus, O.

### *Botanical Gazette*

5750 Ellis Ave., Chicago.

### *Botanical Review*

Botanical Garden, New York City.

### *Ecology*

1000 Washington Ave., Brooklyn, New York City.

### *Journal of Economic Entomology*

George Banta Publishing Co., Menasha, Wis.

### *Journal of Experimental Zoology*

36th Street and Woodland Ave., Philadelphia.

### *Journal of Mammalogy*

American Museum of Natural History, New York City.

### *Journal of Morphology*

36th Street and Woodland Ave., Philadelphia.

### *National Horticultural Magazine*

American Horticultural Society, Washington, D. C.

### *Quarterly Review of Biology*

Mount Royal and Guilford Aves., Baltimore, Md.

### *Scientific American*

24 West 40th Street, New York City.

### *Yale Journal of Biology and Medicine*

New Haven, Conn.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ACADEMY OF NATIONAL SCIENCES OF PHILADELPHIA, LOGAN Sq., Philadelphia, Pa.

AMERICAN ASSN. OF ECONOMIC ENTOMOLOGISTS, College Park, Md.

AMERICAN ASSN. OF MUSEUMS, Smithsonian Institution, Washington, D. C.

AMERICAN MICROSCOPICAL SOCIETY, Kansas State Agricultural College, Manhattan, Kan.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

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| <p>AMERICAN MUSEUM OF NATURAL HISTORY, Central Park W. and 79th St., New York City.</p> <p>AMERICAN NATURE ASSN., 1214 Sixteenth St., Washington, D. C.</p> <p>AMERICAN NATURE STUDY SOCIETY, 5540 Pershing Ave., St. Louis, Mo.</p> <p>AMERICAN ORNITHOLOGISTS' UNION, Ohio State University, Columbus, Ohio.</p> <p>AMERICAN PHYTOPATHOLOGICAL SOCIETY, Bureau of Plant Industry, Washington, D. C.</p> <p>AMERICAN SOCIETY OF NATURALISTS, Indiana University, Bloomington, Ind.</p> <p>AMERICAN SOCIETY OF ZOOLOGISTS, Princeton University, Princeton, N. J.</p> <p>BOSTON SOCIETY OF NATURAL HISTORY, 234 Berkeley St., Boston, Mass.</p> <p>BOTANICAL SOCIETY OF AMERICA, Osborn Botanical Laboratory, Yale University, New Haven, Conn.</p> <p>ENTOMOLOGICAL SOCIETY OF AMERICA, (Clarence H. Kennedy, Editor), Columbus, Ohio.</p> | <p>EUGENICS RESEARCH ASSOCIATION, Cold Spring Harbor, New York.</p> <p>FIELD MUSEUM OF NATIONAL HISTORY, Roosevelt Road and Lake Michigan, Chicago, Ill.</p> <p>FRANKLIN INSTITUTION, Parkway at 20th Street, Philadelphia, Pa.</p> <p>MUSEUM OF THE COMPARATIVE ZOOLOGY, Cambridge, Mass.</p> <p>NATIONAL AUDUBON SOCIETY, 1006 Fifth Ave., New York City.</p> <p>NEW YORK MICROSCOPICAL SOCIETY, American Museum of Natural History, New York City.</p> <p>NEW YORK ZOOLOGICAL SOCIETY, 630 Fifth Ave., New York City.</p> <p>PALEONTOLOGICAL SOCIETY OF AMERICA, American Museum of Natural History, New York City.</p> <p>REPTILE STUDY SOCIETY OF AMERICA, INC., 536 E. 84th St., New York City.</p> <p>UNITED STATES NATIONAL MUSEUM, Tenth and Constitution Ave., Washington, D. C.</p> |
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## DIVISION XXIII

### MEDICAL SCIENCES

#### MEDICINE, PATHOLOGY AND PHYSIOLOGY

BY MAX TRUBEK

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##### GENERAL

The war has given impetus for the extended application of knowledge and procedures developed by peacetime medical research. These investigations have borne results of inestimable value in the saving of lives and the prevention of illness. The problems concern the control of epidemic diseases in regions where our troops are exposed, the extensive use of chemotherapeutic agents in combating wound infection and infectious diseases and in the use of our newer knowledge for the control of shock. The physiological reactions of the human being at high altitudes posed important problems for which there had been an abundant background of knowledge from previous work, some of it gathered from studies made in mountain sickness and in medical illness associated with oxygen want.

Our newer knowledge of nutritive diseases and vitamin needs has also been extensively applied. The study of infantile paralysis has continued in the foreground of interest. Further advances have been made in our knowledge of the causative virus and of its mode of spread from infected cases. Intensified efforts have been continued for the dissemination of information regarding the application of the Sister Kenny method of treatment in acute cases. Chemotherapy with microbiotic agents has proceeded beyond the laboratory stage of experimentation; the relationship of

hormones to the cause or intensification of human cancer has also passed into the stage of application to patients.

##### TYPHUS FEVER

The global distribution of our armed forces has caused intensified interest and concern over rickettsial diseases, particularly typhus fever. Human rickettsial diseases can be classified into three main groups: typhus group, Rocky Mountain Spotted fever group, and Japanese River fever group. The typhus fever group include the epidemic or louse-borne fever and the endemic, rat flea-borne or murine typhus. The Rocky Mountain spotted fever group includes the forms of the disease transmitted by ticks (wood and dog) and encountered in the United States, parts of Brazil, Mediterranean countries (*fièvre boutonneuse*) and Northern and Southern Africa. The Japanese River fever group, also known as tsutsugamushi disease, includes several related mite-borne infections occurring principally in Japan and Formosa and to a lesser extent in Malaya, Sumatra, Burma, and the Philippines.

All these diseases have certain common characteristics; they are all transmitted to man by an insect vector; the causative factor grows only in living cells and, therefore, cannot be cultivated on artificial media; they all have an acute, abrupt onset with

headache, general aching and fever; a skin rash appears on about the fifth day of the illness; the causative organism resides in certain cells of the body, those of the vascular and reticuloendothelial system; nervous and mental symptoms are common; the sera of patients contain agglutinins for one or more strains of the bacterium, *protens vulgaris* x, and results in the positive Weil Felix reaction; one attack usually confers immunity to reinfection.

Epidemic typhus fever is the most important of the rickettsial diseases, it is the oldest and most widespread. Only until a little more than 100 years ago it was still confused with typhoid fever. Nathan Smith of this country published a classic differentiation. Typhus has been known by a number of names: ship fever, jail fever, famine fever, *fleck-fieber* (German), *el tabardillo* (Spanish) and exanthematic typhus (British). Rickettsia prowceki was first described by Dr. Howard T. Ricketts and Dr. Russell H. Wilder who found the organism in the intestines of lice fed upon typhus patients. The organism was eventually proven to be the cause of typhus by da Rocha Lima who named it in honor of the original investigators Ricketts and von Prowceki both of whom died of the illness.

The organism is very small, often just visible under the usual microscopic enlargements; it always lies within cells and appears as a minute bacillus occurring in pairs or short chains. Knowledge of its growth potentialities play an important part in the methods utilized for its propagation in obtaining material for the preparation of vaccine. Agents which destroy living cells such as heat, drying, or chemical agents also destroy the viability of the rickettsia. The parasite multiplies in the living cells of small blood vessels throughout the body, but particularly in the skin and brain. Small swellings sometimes appear which may present a characteristic microscopic appearance. The cutaneous spots are due to the plugging of small blood vessels with extravasation of blood.

Epidemic typhus is transmitted by the human body louse which, when infected, carry large numbers of the causative organism in their intestinal tract. Infection of the human follows contamination of the louse bite by its excreta or by scratching the contaminated areas. The body louse is usually attached to the garments and is rarely seen upon the skin. They continue to multiply; their eggs are easily seen upon the hairs. Those who bathe and change their underclothing frequently do not become louse infected.

The illness is usually ushered in by a severe chill and a subsequent rise in fever, reaching close to 105°F. where it may remain for the next 10 to 14 days. There is headache, backache, pain in the extremities, nausea, vomiting, and nose bleeds. The patient is often stuporous. The rash of increasing intensity appears on about the fifth day, usually beginning upon the torso, spreads toward the extremities but rarely involves the face or below the wrists and ankles. This distribution is in contrast to that in Rocky Mountain spotted fever which starts in the extremities. In favorable cases the intensity of the illness subsides after the fourteenth day, and the rash begins to fade and turn color. Mild cases occur during epidemics as well as fulminating cases with death occurring a few days after onset. The death rate varies but may exceed 50 per cent. The scrotum often presents a characteristic inflammation and together with the slightly enlarged spleen help in the clinical diagnosis of a questionable case. The disease can be avoided by sanitary and hygienic living conditions (when possible), clean clothing, generous use of soap and water, and rigid segregation of infected individuals. There is also evidence for the protective value of prophylactic vaccination.

The vaccine now being used by the United States Army, wherever danger of epidemic typhus exists, consists of a suspension of killed rickettsia prowceki grown in the yolk sac of developing hens eggs. Initial vaccination consists of three 1 cc injec-

tions given seven to ten days apart with subsequent 1 cc doses each four to six months while danger of infection is still present. In this way large amounts of vaccine can be prepared in contrast to the older method by which lice were infected per rectum and after a suitable time, the intestines, swarming with rickettsia, were removed after the lice were killed, ground with formalin and saline solution before use as a vaccine.

The milder form of typhus (murine) is carried from rat to rat by the rat louse and from rat to man by the rat flea. This virus may be converted to the more virulent type by passage through the human louse. Brill's disease, found along the eastern American seaboard, is known as recrudescence typhus occurring presumably in immigrants who came from European epidemic centers. *Fievre boutonneuse* is a rickettsial disease seen in France, Italy, Portugal, Spain, Greece, Rumania, and Northern Africa. Like Rocky Mountain spotted fever it belongs to the tick-vector group. It owes its name to the development of a local nodule at the site of the tick bite, which may subsequently ulcerate. The illness is less severe than typhus. The Japanese River fever may affect troops that have gone through vegetation in the fall of the year, picking up the tiny bright red orange mite. The bite is painless; an ulcer appears with enlargement of lymph nodes which drain the area. The illness is very much like epidemic typhus in the intensity of its manifestations.

#### MALARIA

American troops are now exposed to the hazards of malaria in the tropical and subtropical regions in which they are distributed. Malaria comprises three main disease groups—the benign tertian and quartan types, causing disability but few deaths, and the malignant estivoautumnal variety, at times fatal and often associated with back water fever and profound anemia. Relapses occur in many cases even after supposedly adequate treatment, and such patients must be care-

fully checked and controlled because they present not only the problem of their own chronic illness but may serve as a focus for subsequent transmission of the illness. This carrier state is not only a potential danger in regions where the anopheles mosquito presents the major hazard for transmission but may also be transferred to non-infected individuals by transfusions of blood or as in the recent outbreak among drug addicts by transfer through a contaminated hypodermic syringe.

The best preventive measure is the elimination of the anopheles mosquito; the prophylactic use of anti-malarial drug does not completely serve the purpose. Quinine, which had been isolated from Peruvian bark, is the most effective alkaloid obtained from cinchona. About 90 per cent of the world supply is produced in the Netherlands East Indies but cinchona trees, like rubber, are not native to Java but to South America—the mountain forests of Bolivia, Peru, and Ecuador.

The synthetic antimalarial drug, Atabrine, had been given extensive clinical trial during the many years before the present war shut off our supplies of cinchona. It was proven to be a satisfactory drug, apparently equal to quinine in its effectiveness against the various types of malaria. It is relatively non-toxic and can also be used in solution for intravenous injection, particularly in comatose patients suffering from the cerebral form of tropical malaria. This drug had been manufactured in Germany and the tablets prepared in this country. Its entire preparation is now being carried out here under contract from the initial company in adequate quantities for all our needs. Preventive measures in malaria infected areas are being rigidly carried out—guarding against transportation of mosquitoes by aeroplanes and ships, careful selection of camp sites, killing adult mosquitoes by poisonous sprays, eradication of mosquito breeding places, destroying the immature forms of developing mosquitoes, proper screening, correct clothing and

## MEDICINE, PATHOLOGY AND PHYSIOLOGY

use of mosquito repellents as well as segregation of carriers. The control measures are most important; experience has shown that drugs do not always sterilize the human host nor are they uniformly effective against all forms of the parasite.

### INTESTINAL DISEASES

Typhoid fever may be controlled by vaccination and sanitation. Nothing specific may be done to entirely prevent bacillary or amoebic dysentery except rigid application of sanitary methods and education of troops. Potent drugs are now at hand for treating both these diseases. Food and water-borne epidemics of diarrhea caused by salmonella, streptococci, and pollution may be expected to occur. Cholera is endemic in India, central China, Burma, Philippine Islands, and Malay Peninsula. Protection by vaccination is only partial and must be repeated every six months.

### YELLOW FEVER

Constant vigilance must be exercised to prevent egress of the *aedes aegypti* mosquito, carrier of yellow fever, from the jungles of South America where the infected species still exist. The same species of mosquito also carry the virus dengue fever. In South America, jungle yellow fever is a disease of animals, especially the jungle primates and marsupials. Several species of forest-living mosquitoes transmit the disease from animal to animal or to man. The capricornus mosquito is the important yellow fever vector in the forest transmission. The *aedes aegypti* is a domestic insect, living around human settlements, laying its eggs in cisterns, water barrels, and other household water supplies. The latter distribution can be controlled, but the jungle yellow fever persists and maintains itself under a wide variety of conditions. Control of yellow fever, therefore, is independent of the control of malaria.

There is also an African yellow fever belt. In 1940 a severe epidemic occurred in the Nuba mountains of the Anglo-Egyptian Sudan. In this

instance the *aedes taylori* mosquito was the cause; it breeds in tree holes and has a wide range of flight. There are also other known potential mosquito vectors of yellow fever. Vaccination against yellow fever apparently affords complete and permanent immunity. A living virus made innocuous is utilized. The occurrence of jaundice subsequent to its use in the army, in some of the cases, was not yellow fever. This manifestation has no longer been reported; the preparation of the vaccine has presumably been altered.

### POLIOMYELITIS

A study of the distribution of the virus in various parts of the body of persons dying of poliomyelitis has thrown considerable light on which tissues are predominantly attacked. The results indicate two areas of preponderance—certain regions of the nervous system and the alimentary tract. Contrary to the previously held common belief the nasal mucous membrane and the olfactory bulbs are not the usual portal of entry in human cases. The invasion of the central nervous system would seem to be by way of its neural connection with the alimentary canal. Mild human cases which might not proceed to the paralytic stage may continue to excrete the virus in the stool and thus serve as a focus for dissemination by contact with susceptible individuals.

Such studies have brought light into situations which would not have been solved without the knowledge of the importance of the gastro-intestinal tract as the source of virus. The appearance of poliomyelitis in a family of children shortly after tonsillectomies were performed during the late summer could definitely be traced to stool-carried contacts by painstaking epidemiological histories and appropriate stool studies. Careful analysis of acute cases has also helped to define the period of incubation after exposure to an active case. This period, calculated from exposure to onset of prodromal period,



varies from five to 35 days and averages about 12 days. This is comparable with the incubation period in susceptible monkeys when inoculated with the strains isolated from human cases.

Miss Elizabeth Kenny, nursing in the Australian bush, found that, when hot packs were applied to the aching tender muscles of the poliomyelitis victims, the pain was relieved within 24 hours. She concluded from her observations that spasm of muscle groups was a more important symptom than muscle weakness of an opposing group. Working on this theory she applied hot packs to the tender spastic muscles and relaxed them, allowing a weakened opposing muscle to function. She contends that muscle spasm is not relaxed by immobilization in a cast and that prolonged immobilization causes muscle atrophy from decreased blood and lymph circulation. Passive motion of the affected part is undertaken not only to improve muscle nutrition but to maintain the joint sense and neuromotor association. Miss Kenny calls this latter disassociation "mental alienation." She advocates passive motion of the affected part through a partial arc of its normal motion throughout the acute stage; she directs the patient's attention to his individual muscles to prevent incoordination; she teaches them the general anatomy and function of each muscle. Scientific confirmation of Miss Kenny's theory as to muscle spasm in acute poliomyelitis has already appeared in the literature.

Miss Kenny uses no splints or casts. The patient is placed on a flat mattress which is pulled up from the foot of the bed far enough to allow the heels or toes to extend over the end, depending upon whether the patient is lying on the back or upon the stomach; a board covers the foot of the bed. Hot packs are applied every day; reeducation is begun as soon as muscle spasm is relieved. The patient is instructed concerning the parts to be moved by stroking the exact insertion of the muscle groups. This

stroking is done to assist in establishing "mental awareness." Respiratory failure due to spasm of the intercostal and pectoralis muscles has in many instances been relieved by hot packs, the mechanical respirator is not used.

There has been great enthusiasm about Sister Kenny's methods; her theories grew out of a practical study of function, and will undoubtedly aid each individual afflicted in recovering his maximum function consistent with the amount of organic spinal nerve root injury. Methods which accentuate disability will be abandoned but even many patients treated by her method will show incomplete recovery. The fundamental problem is control of the disease by learning its mode of dissemination. The causative virus is known; its preponderance and persistence in the alimentary canal has been proven. This marks a tremendous progress in basic knowledge. The season of greatest virulence and spread has long been recognized to be in late summer and early fall. The greatest common factor in its method of distribution is not yet known.

#### CHEMOTHERAPY

We have just witnessed the amazing benefit which the sulfanamide drugs have yielded in the treatment of medical and surgical diseases. The reduction in mortality and morbidity among the armed forces has justified all our expectations. It is being used prophylactically against potential infection after injuries; infection after external injuries and fractures have been reduced to a minimum by subsequent local application; and its use in the abdominal cavity has cut the mortality to a marked degree as compared with that of the last war. Epidemic and suppurative meningitis now have a much more favorable outlook, and lobar pneumonia can be handled effectively. Gonorrhea usually yields promptly to sulfathiazole; the soluble sodium derivatives are valuable in general sepsis, meningitis, or in patients who are unable to take the oral preparations. The newer preparations (sulfaquanidine and suc-

cinylsulfathiazole) are of value in treating some of the diarrheal diseases. During 1942 the treatment of burns was greatly facilitated by the use of a solution of 2½ per cent sulfadiazine in 8 per cent triethanolamine applied as a spray.

Recently bacteriologists have been reporting the anti-bacterial activity of a series of new substances obtained as metabolic products of bacterias and molds. They seem to possess extraordinary activity, much greater, indeed, than the sulfonamide groups. The present great interest in this subject stems from the work of Dubos who in 1939 isolated a metabolic product from the soil bacillus *B. brevis* which possessed a very high degree of bacteriostatic activity against gram positive organisms such as the pneumococci, the staphylococci, and the streptococci but which seemed to be inert as regards the gram negative organisms such as *B. coli* or the meningococci. The material after preparation can be divided into two parts. One has been called Gramicidin because of its specificity for gram positive organisms, the other, water soluble, acetone insoluble, has been named Tyrocidin and is effective against gram negative organisms. Gramicidin is the more potent substance although each in its respective field is being used with encouraging results.

A filtrable substance has also been isolated from certain molds which possess a powerful antibacterial activity. Penicillin is the name designated for the extracted substance. It is stable and relatively non-toxic for the human tissues either locally applied or injected into the blood stream. It is effective against infections by staphylococci, beta-hemolytic streptococci, and pneumococci but not against *B. coli*. The presence of pus does not inhibit its action as in the case with sulfonamid drugs and is definitely a bacteriocidal substance also in contrast to the action of sulfonamids. Other substances are being isolated, at present Aspergillin promises usefulness against gram-negative organisms, including the typhoid-paratyphoid groups as well as against

most of the members of the *Salmonella* group, giving it a different range of activity than Penicillin.

#### BLOOD AND PLASMA FOR THE ARMED FORCES

The American Red Cross Blood Donor Service is the sole agency for the procurement of blood to be used by the armed forces. Seventeen centers were selected because of their relation to centers of population and because of their proximity to commercial biologic laboratories that could process the blood into dried plasma. About 40 doctors are now bleeding over 20,000 donors per week. Mobile units have been set up so that small communities and individual groups can be visited. The blood must be quickly transported to the processing plant; the plasma must be carried to the frozen state within 72 hours after the blood has been withdrawn. The donor must be between the ages of 21 and 60 years, afebrile, the hemoglobin over 80 per cent, and the systolic blood pressure between 100 and 200 mm. of mercury. Significant questions are asked regarding the presence of pulmonary or cardiac disease, malaria, and pregnancy. A serologic test for syphilis is done on each blood specimen withdrawn, and, if positive, the blood is unsatisfactory. A donor may return after eight weeks but is not allowed to give more than five donations in a year. Careful follow-up studies on professional donors by the New York Blood Transfusion Association show that there is no deleterious effect on healthy individuals who make repeated donations at stated intervals.

The standard collecting bottles have been carefully selected as to simplicity and strength; each is of 550 cc capacity and contains 50 cc of a 4 per cent citrate solution to prevent coagulation. The bleeding set has a minimal of replaceable parts and is easy to clean and assemble. There has been very little breakage during centrifugation or in shipment. Every effort has been made to protect the sterilized sets against tampering before use and also to protect the bot-

tles of blood in transportation back to the processing laboratories. Several of the bleeding centers ship by railway express nearly 500 miles away. Proper refrigeration of the freshly drawn blood is imperative to guard against hemolysis and bacterial contamination. Freezing must also be avoided. Sterility must be maintained; there must not be the slightest break in technique or in the handling of the blood from the time the bleeding set is originally sterilized until the final dispensing unit is dried. There have been 286,197 donors bled without a single fatality or serious accident. Because of losses from all sources—breakage, contamination, rejected applicants and bloods—it has been found necessary to have 1,248 persons offer their blood in order to provide 1,000 finished units of dried plasma for the armed forces.

Normal human plasma is a satisfactory substitute for whole blood in the treatment of certain conditions such as shock with or without hemorrhage, burns, and for the maintenance or restoration of body proteins. There is rarely any deterioration when it is prepared in powder form and needs no cross matching before injection. The powdered blood plasma is packed in an ampoule vial accompanied by a bottle containing 250 cc of sterile distilled water. When the two are mixed they yield the original volume of the untreated blood plasma. The plasma, being vacuum packed, draws in the water when connected by tube and needles to the distilled water vial. The prompt and adequate replacement of protein loss is often a life-saving measure. Solutions of plasma possess colloidal osmotic pressure and are not dissipated after injection into the depleted blood stream. The beneficial and often dramatic effects of this form of therapy are now well appreciated in shock whether from trauma, burns, intestinal obstruction, peritonitis, or hemorrhage. Application of this principle developed during peacetime has been of inestimable value in the successful treatment of war illnesses and injuries.

#### BIOCHEMICAL TREATMENT OF CARCINOMA OF THE PROSTATE GLAND

During the past few years new procedures, remarkable for their future implications, have been announced for the treatment of cancer of the prostate. They offer promise for hope in the eventual biochemical control of malignant disease. A close chemical relationship has for some time been recognized between cholesterol, many of the steroid sex hormones, and carcinogenic agents. It has been suspected that human cancer is stimulated to growth by a circulating substance of similar structure.

Huggins has demonstrated that castration in man decreases the height of the prostatic epithelial cells in normal prostatic tissue, that the male sex hormone, testosterone, stimulates the activity of dogs' prostatic cells and diethyl stilbesterol inhibits their activity. He has also shown that the acid phosphatase in cancer of the prostate with metastases is increased and that castration in man has in many cases produced relief of pain and regression of the tumors in cancer of the prostate with metastases. Striking amelioration of local symptoms due to an enlarged malignant prostate with striking decrease in size has been reported subsequent to the use of the estrogenic hormones, either natural or synthetic. Not all patients respond favorably; too large doses may stimulate rather than inhibit growth. When castration alone does not maintain improvement, then the estrogenic hormones may be used to advantage. Some authors recommend both methods as the better therapy. The level of the blood acid phosphatase rises with the spread of the prostatic cancer. Its reduction may be used as a measure of actual control. The dose of estrogens should not exceed the accomplishment of such control, as the use of excessive dosage is not always safe. Irradiation of the testicles as an alternative to surgical castration has also been followed by clinical improvement.

This effect of castration and estrogens in metastatic prostatic carci-

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noma constitutes a proof that malignant growth is not necessarily due to an irreversible urge to grow, inherent in cancer cells. It would seem that this growth may be in part due to the effect of hormonal stimulation which in this instance can be subjected to

some measure of control. These results have renewed the hope for eventual control of carcinoma of the breast through the medium of the gonadal hormones. Thus far favorable results have been very limited in this category.

## SURGERY

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### GENERAL

A survey of the literature for 1942 reveals increasing preoccupation with the many medical and surgical problems arising out of the prosecution of an all out effort to win the war, and the attending needs of the medical services of the Army and Navy. Consequently over one half of the space devoted to this review will be concerned with War Surgery, and references will be made to problems pertaining to war conditions under the other headings.

### WAR SURGERY

The principles of treatment of war wounds have two objectives: prevention and treatment of hemorrhage and shock and the prevention and treatment of infection. The experiences to date in this war leave the impression that the degree of shock among casualties far transcends that seen in the First World War. Consequently, elaborate and highly perfected transfusion services have been organized, and all the resources of resuscitation have been subjected to evaluation and trial. Rest, for the patient as a whole, in addition to the injured part, the alleviation of pain and emotional strain, the application of mild heat, the use of mild stimulants such as caffeine, the elevation of the foot of the bed or stretcher, and the administration of oxygen when available—all these continue as in peacetime to be used with benefit. A recent adjunct is the use of adrenocortical hormone (which mobilizes

electrolytes in the bloodstream) in conjunction with whole blood and blood substitutes and the introduction of some new members to the latter.

### BLOOD TRANSFUSION

Whole blood is used especially when hemorrhage accompanies shock. In war, difficulties arise from the standpoint of ready availability in as much as present methods of storage do not make for safe use of blood which is more than ten days old. Citrated and dried blood plasma, however, have the advantages of relative ease of preservation, ready availability, high efficiency in shock and elimination of the need for matching when pooled plasma is used. The American Red Cross Blood Donor Service has procured tremendous quantities of plasma for use in the armed forces. Methods for drying the plasma have been evolved, and preservation in the dried state has facilitated greatly the problems of transportation and supply. The dried plasma is reconstituted and made immediately of use by the addition of distilled water. The advantages of plasma in the state of hemoconcentration accompanying shock are the restoration of blood volume and mobilization of the red blood cells so that anoxia is relieved.

Albumin makes up about 62 per cent of the total human plasma proteins, and is the most important component of the blood as regards maintaining its volume. Albumin recently



has been fractionated from human plasma, and this purified product can be retained by the body while at the same time it can be administered in a highly concentrated low volume. The substance offers distinct advantages in the treatment of shock because it is compact, stable, and very potent; also it replaces protein loss in burns and prevents and corrects the attending hemoconcentration. The administration of human serum albumin appears to be an established procedure for the treatment of shock which is due to trauma, hemorrhage, operation and infection, early and late burns and hypoproteinemia. For administration of solutions of low viscosity the intrasternal marrow route has been shown to be safe and efficient where veins are not available because of widespread burns, circulatory collapse, or generalized edema.

#### **TETANUS TOXOID**

All men in the armed forces now receive protection against tetanus by active immunization with tetanus toxoid. At the time of injury a "booster dose" of toxoid is given. The results to date are most gratifying. In one London sector during two years of war, seven cases of tetanus were seen amongst over 11,000 casualties, and of these seven only one case occurred in a soldier (in 6,500 casualties). The value of active immunization with toxoid is unquestioned. Experiments are in progress with the use of gas gangrene toxoid for active immunization. In the interim the use of antigas serum continues to find favor in the prophylaxis of gas gangrene infection.

#### **SURGICAL DEBRIDEMENT**

Surgical debridement continues to be the most important principle of treatment in wounds. It removes the necrotic tissues as well as the bulk of bacteria and leaves behind healthy tissues in a large measure capable of defending themselves, while at the same time it establishes free drainage. Careful debridement within the first eight hours of injury is the most important preventive of infection.

#### **PROBLEMS OF TREATMENT UNDER WAR CONDITIONS**

Primary closure of war injuries is recommended only under the most exceptional circumstances, and is being absolutely recommended only for wounds of the skull, the large joints, and the chest and abdomen. The reasons for this are apparent when one considers the circumstances under which surgical care must be administered under conditions of war. The problem of transportation and the attendant delay until the wounded reach a spot to allow for proper care is responsible for the transition from the period of contamination to the period of infection. In this same interval the wound may have been exposed to many sources of secondary bacterial contaminants which in themselves make primary closure dangerous. Large numbers of wounded arriving simultaneously at the hospitals and the rapid movement necessarily imposed by modern warfare are factors which impede the best possible care of wounds in the period before infection sets in.

#### **APPLICATION OF SULFONAMIDE DRUGS**

Within the past year attention has been focused upon the local application of the sulfonamide drugs for therapeutic and prophylactic purposes, particularly in war wounds. Many papers have appeared presenting both experimental and clinical data on the subject. Unfortunately, however, controlled statistical studies on the efficacy of the drugs as local implants in open wounds are few. Yet, there are several reasons, perhaps, for their widespread use. One of these is that unquestionably the drugs have merit. The other and perhaps more important reason is that the majority of those who have advocated the use of the sulfonamide drugs locally or by mouth, have at the same time strongly emphasized the necessity for the proper care of the wound along well known surgical principles.

Warnings are issued repeatedly that these drugs are not miracles, and,

therefore, they are not substitutes for adequate surgery but rather that they are an additional prophylactic agent against infection. The belief is that the sulfonamide drugs implanted locally will delay bacterial multiplication for many hours, and will permit safe surgical treatment much later than the heretofore accepted 0-6 hour "golden period" of safe debridement and cleansing. The drugs, therefore, are being advocated for local use in all traumatic wounds. Full evaluation of benefits of local sulfonamide therapy awaits further study.

## PLASTER IMMOBILIZATION IN WOUND TREATMENT

The great value of rest in wound repair after careful excision and cleansing is emphasized anew in the recommendation that all wounds of the extremities be immobilized in plaster casts. The advantages of plaster immobilization are many. The method is ideal for transport of the wounded, is agreeable to the patient in the relief it affords from pain, and is both labor-saving and inexpensive. The infrequent dressings undoubtedly are conducive to rapid wound healing in that there is little interference with the processes of wound repair. The firm, even pressure exerted also acts to promote healing.

Another factor which needs to be stressed in conjunction with plaster immobilization is that with each change of dressing the wound is exposed to fresh contamination from many sources. The mouth, nose, and hands of the surgeon and his assistants as well as the infected wounds of patients in the same ward are sources of contamination, particularly when dressings are done with bare hands and unmasked nose and mouth. The significance of such contamination, always suspected, is borne out by studies in England, which tend to prove that serious contamination and secondary infection does occur in wounds frequently after, rather than at the time of, injury. By adopting "operating room technique" to the handling and dressing of open

wounds, such cross infection can be reduced materially, and many hospital days can be saved in the resultant lowered time of healing. The use of the sulfonamides locally and orally is said materially to reduce secondary infection with the hemolytic streptococcus.

## BURNS

The enormous importance of burns in the medical treatment of combat forces is emphasized by the voluminous literature on this subject in 1942. The systemic symptoms are treated on a generally agreed plan, namely, the combatting of hemoconcentration, shock, and electrolyte imbalance. The local treatment at present, however, is in a chaotic state as evidenced by the variety of treatments recently suggested. Many factors must be considered in the choice and evaluation of local burn therapy, such as the extent and depth of the burn, its topographical location, the nature of the bacterial contamination, and the effect expected from the topical application (anti-bacterial action, protection against serum loss, production of an eschar, rapid separation of gangrenous skin, promotion of wound healing, etc.) Tannic acid seems to be less popular as a method of treatment for a number of reasons. The eschar does not protect against secondary bacterial contamination, it does not stop fully the leaking of fluid from the raw surface, and it irritates the underlying tissues and impairs wound healing. Toxic effects from the absorption of tannic acid in the form of liver damage are said to occur. Various sulfonamide sprays and ointments are being advocated to replace tannic acid, but their number alone indicates that the ideal one has not yet been found. It is becoming more and more apparent that the success of any treatment in first and second degree burns does not apply in third degree burns. Almost any application together with careful cleansing and debridement gives good results in burns which do not destroy the full skin thickness, but shows little or no

beneficial effect on the end result of deep burns.

For local therapy, the following are the principal objectives of treatment: (1) to convert the open contaminated wound into a clean wound; (2) to cover the open wound by the simplest possible dressing which protects from reinfection without destruction of skin or interference with drainage and which can at the same time be easily removed; (3) to keep the injured part at rest; and (4) to secure healing in a minimum period of time with a minimum loss of function. For the application of these principles there has been advocated recently treatment by fine mesh vaseline gauze and pressure dressings, applied with meticulously aseptic technique to the burned area after careful soap and water cleansing and trimming to remove all devitalized tissue. Such dressings are left in place about two weeks or longer to avoid secondary contamination, and when successful, result in complete healing with a minimum of scar formation.

The treatment of third degree burns revolves about excision and grafting of the burned area as early as the patient's general condition permits and as soon as local infection is controlled. Successful grafting has been advanced recently by the use of a dermatome apparatus, which permits large sheets of skin of any desired thickness to be removed from donor sites. The knife which cuts the graft slides smoothly in supports which extend radially at either end of a cylindrical drum, and the clearance can be regulated by micrometer screws to cut a graft of any desired thickness. The drum is covered with rubber cement which causes the skin to adhere rather firmly to it when it is placed on the donor site and rolled slightly. This causes a fold of skin to be raised just enough off the level of the rest of the site to be conveniently reached by the knife. The sulfonamides are said to minimize bacterial action on granulating surfaces without interfering with the "take" of grafts.

#### **BLAST SYNDROME AND CRUSH INJURIES**

When a bomb explodes, at every point in the neighborhood of the detonation there occurs a momentary wave of high pressure, and then a negative "suction" pressure, owing to the fact that the positive compression wave has reduced the density of the air behind it to below normal atmospheric pressure. Two syndromes observed frequently in the Battle of Britain were the Blast syndrome and the Crush injury with Renal Failure syndrome. Blast syndrome may occur in a man close enough to a bomb explosion, who is fortunate enough to escape flying fragments but who is affected by the blast pressure. The pressure wave on the chest wall results in shock and collapse from "hemorrhage pulmonary concussion," or hemorrhage of varying degrees in the lung alveoli together with marked distention or engorgement of the capillaries. Significant injury to the chest wall need not be present. This syndrome has the following features: (1) The frequent disproportion between the symptoms and the physical signs. The chest complications may not show up at once so that the effect of the blast is not discovered immediately unless a search is made for it. (2) The physical signs are a fulness and a blown-up appearance of the chest and a diminished respiratory excursion; the blown-up appearance is best noted along the lower half of the chest. Emphysema is frequently associated. (3) Roentgenograms are most valuable. They show diminished lung expansion and consolidation, especially on the left side. (4) Shock is present always. (5) Frequently there is associated rupture of the tympanic membrane. The treatment is symptomatic. Rest, oxygen, and phlebotomy are advocated, together with blood plasma and associated shock therapy. The British emphasize that this sublethal lung damage should be considered a possibility in all persons in bombed areas who are in a state of collapse but who have not sustained splinter

wounds nor have been struck or crushed by falling debris.

Crush injury to the limbs with renal failure is another new syndrome arising from bombing of cities. The clinical picture is quite typical. The subject usually has been buried for several hours with pressure on a limb. The condition on admission is good, except for the swelling on the limb. However, the hemoglobin is raised, and yet a few hours later, in spite of vasoconstriction manifest by pallor, coldness, and sweating, the blood pressure falls. The injured limb may show signs of incipient gangrene. The signs of renal damage soon appear and may progress even if the limb is amputated or if intensive shock therapy is administered. The urinary output diminishes sharply, and signs of uremia appear, with alternate drowsiness and anxiety and generalized edema. The blood urea and potassium rise steadily and, if untreated, the patient dies in about a week. Necropsy reveals necrosis of muscle, and degenerative changes in the renal tubules. The former is related to the increased serum potassium, the latter to the increased blood urea. A number of cases of recovery have been reported following administration of large amounts of sodium bicarbonate, together with routine shock therapy. In cases which recover, the signs of renal function return gradually, with a fall in the blood urea. Once the blood chemistry is restored to normal, any necessary surgery to the limb may be attempted.

## ANESTHESIA

The ideal anesthetic has not yet been found. All anesthetics may be toxic to tissues, but some may be more so to one system or organ than to another. The ideal anesthetic has been defined as one which is safe, portable, capable of being administered by the surgeon, rapid in action, usable with simple apparatus, controllable, capable of being used without a supplementary anesthetic agent, without extrinsic risk, without contraindications, without serious

after-effects, non-volatile, certain of action, and stable on storage. Simplicity must be the keynote of anesthetic technique and equipment especially under conditions of war.

Advances in anesthesia may be classified broadly as follows: (1) The evaluation of less toxic agents; (2) Improved methods of administration of anesthetic agents. (3) The use of a combination of agents and methods, thereby decreasing the toxicity from the use of a single agent. (4) Improved methods of administration of oxygen and other inhalants. (5) Supportive measures during the operative and post-operative period, and (6) Special measures such as the use of tracheobronchial aspiration after the operation. The liver and kidneys being most frequently affected by toxins, anesthetists are paying increasing attention to the function of these two systems. For protecting the impaired liver, diet high in carbohydrates in order to increase the content of glycogen of the liver before operation and the maintenance of adequate oxygenation during the anesthesia and after operation, have been found best. In patients with impaired renal function, efforts are made to maintain as nearly normal fluid and electrolyte balance as possible by the judicious use before and after operation of fluids and intravenous solutions. The respiratory system has been controlled more satisfactorily as regards anesthesia complications by a number of measures. The most important factor for accomplishing this is a free airway so that oxygenation is adequate at all times. Intratracheal intubation for inhalation anesthesia is becoming a more routine practice.

A new principle of anesthesia in surgery of the extremities is refrigeration anesthesia, which is produced by chilling and cutting off the blood supply by means of a tourniquet. The technic is as follows: a tourniquet is applied over an area which has previously been kept cold for about ten minutes with cracked ice. After application of the tourniquet the entire leg is packed in finely cracked ice.



The ice or ice water must extend about two inches above the tourniquet. Immersion for about two hours is sufficient. The patient is brought to the operating room with the leg in ice, usually without any morphine. His ordinary eating routine need not be interrupted. The amputation is then done immediately after the ice is removed. Postoperatively the stump is gradually defrigrated with the use of ice bags. The skin temperature during the refrigeration is between 5 and 19 degrees Centigrade. No additional sedation or medication is necessary, and the refrigeration is said to produce complete anesthesia lasting one hour. Its use has been chiefly in cases of amputations in diabetes and arteriosclerosis and the chief advantages offered are ease and speed in operation, absence of pain both before and after operation, conservation of poorly nourished tissues, and pre-eminently the avoidance of shock. The method offers promise and deserves further study.

#### **SURGERY OF THE GASTRO-INTESTINAL TRACT**

The average patient with gastrointestinal cancer presumably has some degree of acidosis, hypoproteinemia, and avitaminosis. The hypoproteinemia predisposes to shock, edema, and, as recently shown, to impairment of wound healing. Administration of dextrose-chloride solutions will correct promptly the acidosis, but constant attention to fluid balance is of inestimable importance. Prompt administration of plasma or blood is of greatest avail in the treatment of hypoproteinemia.

Patients with disease of the gastrointestinal tract frequently can not ingest, digest, or absorb food normally. The value of a parenteral supply of protein in such cases has long been appreciated. Within the year the successful maintenance of patients in nitrogen balance by means of administering a mixture of all the essential amino acids has been reported widely and commented upon favorably. The amino acids are derived from the hydrolysis of casein by slow enzymatic

action. Large quantities must be administered daily by vein to nourish the tissue. Administration of these amino acids does not replace proteins, but it does make it possible for more proteins to be withdrawn from the plasma for tissue building purposes.

The role of vitamins in surgical therapy has been clarified tremendously. As regards gastrointestinal surgery, malnutrition and hypoproteinemia have been associated with deficiency of vitamins, particularly of C. Vitamin C deficiency has been shown to retard wound healing, and in conjunction with hypoproteinemia, has been incriminated in cases of wound disruption. Administration of C is advocated, therefore, in all cases with a history of chronic gastrointestinal disease. Vitamin B is given in conjunction because its depletion is said to be associated with intestinal atony.

Some of the most difficult problems in gastrointestinal surgery deal with pancreatic fistulas and with strictures of the common bile duct. Recently Vitallium tubes have been devised for the repair of these. Vitallium is an alloy of cobalt, chromium and molybdenum, which is inert in tissues, and causes little or no reactive inflammation. They have been acclaimed as superior to the rubber tubes previously used.

The year witnessed intensive study upon a new application for chemotherapeutic substances, namely, the elimination of pathogenic bacteria from the alimentary canal before surgical procedures are attempted. Sulfamylguanidine was introduced first, then abandoned because it was ineffective in the presence of ulcerative lesions; too large amounts had to be given to bring about a reduction in the bacterial counts of the stool, and toxic manifestations were observed. A new compound, succinyl sulfathiazole, is available now, and it has the advantages of high anti-bacterial potency, low toxicity, poor absorbability from the gastrointestinal tract, and activity in the presence of ulcerative lesions. When given by mouth and

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in proper doses, the stools become soft and odorless, the flatus is reduced, and the bacterial flora is markedly altered. The drug is recommended for use preoperatively for operations on the large bowel.

A few words must be said about the local and general use of sulfonamides in the peritoneal cavity soiled by leakage of bowel contents either from perforation by trauma, as in warfare, or by disease. The sulfonamides apparently maintain bacteriostatic conditions in the peritoneal cavity long enough in most instances until the body defenses against bacteria are mobilized. Peritonitis deaths are reported fewer following appendicitis with perforation, and more lives are reported being saved in the battlefronts by the use of the sulfonamides in repair of gastrointestinal perforations by trauma. As regards perforations of the intestine by shrapnel and bullets, the experience of the English has been uniform that closure of the perforations with implantation of local sulfanilamide has been attended with a much higher rate of recovery than when resection of the involved areas is attempted.

### SURGERY OF THE BLOOD VESSELS

A dreaded complication following surgical operations is thrombophlebitis of the lower extremities. Statistics show that approximately one out of every 18 persons with clinically recognizable thrombophlebitis of the deep veins of the leg will die of embolism. Except for those of cardiac

origin, the great majority of pulmonary emboli have been shown to arise in the deep veins of the leg.

Naturally, prophylaxis is the best treatment, but once thrombophlebitis has occurred, early and accurate diagnosis is of utmost importance. In the past year diagnosis of this condition has been aided by the visualization of the entire femoral vein by roentgenograms (the venogram or phlebograph) taken after the veins are filled with a radiopaque substance such as 30-60 per cent diodrast solution. Structural filling defects due to thrombophlebitis are easily recognized, and the proximal end of the propagating clot thus is easily visualized. The modern treatment is primarily surgical and consists of prompt division of the femoral vein, together with extraction of the clot at the same time.

A new antiprothrombin agent is reported. Dicoumarin is a chemically pure extract of the toxin derived from spoiled sweet clover. The substance can be given orally or intravenously, and its administration is attended by a lowering of the prothrombin time. The dosages for humans by either route have been established, and the drug promises to be a valuable and potent new chemotherapeutic agent for the prevention of coagulation of the blood. Studies on whether Dicoumarin hastens the liquefaction or absorption of previously formed thrombi or fibrin deposits are now in progress. It is believed this substance will be valuable in inhibiting propagation and extension of already formed clots.

## PUBLIC HEALTH AND HYGIENE

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### GENERAL

The public health during 1942 was gratifyingly good. The country suffered no major epidemics, and the preliminary statistics indicate that the death rate of 1942 is not likely to be

higher than that of the preceding year. The figures of the Bureau of the Census show that during the first six months of 1942 the death rate (by weeks in major cities) was well below the three-year average (1939-1941).

Beginning, however, with July there was witnessed a substantial rise in the weekly mortality rate above that of the three-year average. The crude death rate for the first 47 weeks of 1942 was 11.7. For the corresponding period in 1941, the rate was 11.6.

The morbidity experience during 1942 was similarly good. However, one noteworthy exception was the uncommon prevalence of virus pneumonia, called also X-pneumonia and atypical pneumonia. This infectious disorder is a comparatively new clinical entity. The full measure of its menace is not yet known.

#### RODENT PLAGUE

The (silvan) plague infection among wild rodents in the western states is also a matter for earnest concern. The year witnessed a severe exacerbation of rodent plague. "There are areas in California where the ground is figuratively littered with the carcasses of squirrels, dead of plague." (Dr. Wm. P. Shepard, San Francisco, Calif.) The mushroom growth of industrial communities with their inadequate housing facilities and their inferior sanitation, favors an enormous increase in rat population and the possible extension of plague infection to human beings.

#### WARTIME FACTORS IN HEALTH PROBLEMS

The war efforts of our country deeply affected the public health activities of the year. Numerous new problems came to the fore and certain deficiencies were exposed. The major new problems arose chiefly from the rapid extension, and the intensification, of our industrial activities. The population in many communities was more than doubled in the space of a few months by the influx of workers and their families. Other communities literally sprang up over night. Countless families, therefore, have been obliged to live in crowded quarters, in the flimsiest of makeshift structures, and in trailers. These developments created serious problems in food distribution and in the provision of medical care.

Similar problems developed within the industrial plants. The labor population increased enormously; factories which heretofore operated but eight hours a day, are now in operation 24 hours every day. Canteen and lunch room facilities are frequently lacking or are most inadequate, and working conditions are often far from ideal.

#### ACTIVITIES OF HEALTH AGENCIES

The urgency of war needs dictated the rapid extension of our production facilities, and did not allow for leisurely planning. However, the public health agencies, voluntary and official, as well as industry itself promptly recognized the health problems that confront the nation and set to meeting them. Campaigns were instituted to teach the worker and his family the importance of good nutrition. In many places where it was possible, workers were provided with nutritious luncheons, or were persuaded, often by ingenious methods, to choose the proper foods offered in the canteen. The medical services in many plants were extended to provide the workers, and in many instances their families, with medical care both in the work place and at home. The efforts to prevent accidents were likewise intensified, and particularly noteworthy is the entrance of the trained psychiatrist into the field of industrial management. His functions are various, being those of a personnel relations man whose job it is to dissipate disaffections which are psychological in origin—a co-worker in accident prevention, and an expert on the clinical staff.

Needless to say, all these developments have had many disruptive effects on the established patterns of communal relations, and have given rise to economic and professional frictions. It is to be expected, however, that with time and experience readjustments will take place, and that in the end industrial hygiene, industrial medicine, and safety in in-

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dustry will have been substantially advanced.

### SANITARY AND HYGIENIC SERVICES

The Federal Health and Welfare agencies which heretofore exercised but few direct administrative functions, largely because of opposition by the state and community organizations, have now been called upon to render complete sanitary and hygienic services to the war-boom communities. Numerous state and local health organizations found it impossible to deal with the needs of their communities, neither their staffs nor their resources proving adequate. In the same direction, and perhaps on better premises, Federal funds have been made available to state industrial departments to enable them to extend their services.

The overall picture reveals a whole-some heightening of interest in the wellbeing of our people. The war experience with its demand for "total man power" has focused attention on many public health deficiencies of which we were only mildly aware, and to which we were largely indifferent during the peacetime decades. Now there is a large, almost indignant curiosity as to why so many of our draftees are rejected because of physical defects; why so many workers in the older age group are allowed to go unemployed; why there is so much absenteeism in industry, etc.

Fortunately this curiosity is serving as the mainspring of numerous constructive activities, some of which aim directly at the immediate remedy of the undesirable conditions, while others are more remote in aim, seeking to define the ultimate causes of these conditions. Thus sporadic efforts are being made in different parts of the country to provide the necessary medical care to the young men rejected in the draft because of physical defects. This is, of course, an enormously large problem, and one not likely to be solved easily or soon. Yet, much good can not but come from this concern with the health of our youth, and from the sharp aware-

ness aroused by our draft experience which revealed the presence of so much of preventable and remediable physical defects.

### NEW INTEREST IN OLDER WORKERS

At the other end of the life span we have witnessed an intensification of interest in geriatrics. The war necessity has recalled the older worker from his all too often unwilling retirement, and his performance "back on the job" is responsible for a resurgence of interest in the older age group. Not only the medical but the social and economic aspects of aging are being considered more closely and more earnestly. It is patent to those who reflect on the future that the reconstruction of the now half ruined world will require no less of manpower than does the pursuit of the war objectives, and that in this the contributions of the older workers will be ponderable.

### PROBLEMS IN RELATION TO WOMEN WORKERS

In the same category belong the problems of "women in industry." Necessity again has swept before it many barriers buttressed by ignorance and prejudice and it is not likely that with the coming of peace all of the new positions occupied by women will be relinquished by them. The extension of the woman's sway in industry has brought with it many new problems affecting the economy of the home, the care of children, etc., and not a few, too, that spring from the worker-job relation and which are unique with the female worker.

### INDUSTRIAL HEALTH ACTIVITIES

In this connection note must be taken of the pointed efforts which have been initiated by business and industry concerning the health of our people. Thus, the National Association of Manufacturers has fostered a program of industrial health activities through a special committee, and in another direction but yet distinctly as an industrial project, 15 food manufacturers have combined to create The Nutrition Foundation. The



Foundation is committed to a five-year program of basic research in the science of nutrition and has the sum of \$1,100,000 wherewith to support the program. Both these projects have larger significances than is reflected in their objectives. They witness a trend which promises the ultimate recognition of the responsibilities carried by business and by industry for the health of the producers and the consumers.

#### **EFFECTS OF SHIFTING MEDICAL MEN TO WAR SERVICE**

Cognizance must be taken of the profound effect on public health which has been produced by the transfer of so many physicians from the civilian to the military service. It is estimated that 40,000 physicians in the younger age group have entered the armed forces. This rapid shift of medical personnel has disorganized hospital staffs and communal medical services. Many of the smaller cities and towns now have but a fraction of the number of physicians they had formerly.

Despite much complaint, however, it is doubtful if there has been any significant shortage in medical service, the exceptions being the war work communities. These experiences arising from the dislocation of medical services and facilities already foreshadow significant and possibly permanent changes in medical and hospital practices. Thus, it is evident that most of the luxury elements of office and hospital practice will have to be abandoned. The voluntary hospitals largely supported by gifts and by endowment are confronted with the specter of insolvency and will probably be obliged to ask for governmental support. Should this take place, it will in turn radically affect their policies with regard to maintenance of a "closed staff." The public, out-patient clinics, which so many of the voluntary hospitals maintain, are likely to be curtailed in their services, more of them becoming limited pay clinics. Laboratory services and consultants' services are likely to be made more extensively available and less costly. These changes are in

many respects not unwelcome and are likely to prove a partial answer to the problem of the high cost of medical care.

#### **SHORTENING OF MEDICAL COURSES**

Note must be taken of the intensified and "calendar-shortened" course of instruction now being given to medical students. Undergraduate instruction now consumes three years instead of four. This, too, is a welcome change, much complaint having been heard in recent years about the many years which the young medical person must spend in his training and the comparatively advanced age at which he now assumes his social and professional functions.

#### **INSTITUTE OF SOCIAL MEDICINE AT OXFORD**

An event in 1942 which, while local to England, is likely to prove of world wide significance, was the creation of an Institute of Social Medicine at the University of Oxford. This Institute was created through an endowment given by Lord Nuffield. The endowment provides £10,000 a year for ten years, these sums to be devoted to the creation at the University of Oxford of a university professorship of social medicine and the foundation of an institute in which the professor will work. The purposes of the institute are given as follows:

"To investigate the influence of social, genetic, environmental and domestic factors on the incidence of human disease and disability.

"To seek and promote measures, other than those usually employed in the practice of remedial medicine, for the protection of the individual and of the community against such forces as interfere with the full development and maintenance of man's mental and physical capacity.

"If required by the university to do so, to make provision in the institute for the instruction in social

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medicine of students and practitioners of medicine approved by the board of the faculty of medicine in the University of Oxford."

This prospectus represents a very broad and inclusive appreciation of the factors which affect individual and public health. In essence there is witnessed in the creation of the Institute of Social Research the appreciation that the health and well-being of the people depend upon many other and more potent factors than the ready availability of medical care. The experiences and findings of this Institute will be followed with great interest.

### PUBLIC HEALTH RESEARCH INSTITUTE OF NEW YORK

A particularly noteworthy development in the field of public health was the recent establishment of the Public Health Research Institute of New York City. This is a unique research institution and one that might well serve as the prototype for similar institutes to be developed in the major cities of the country.

The Public Health Research Institute of New York City is a scientific, non-profit organization, devoted to scientific research essential for the protection and the improvement of the health, safety and welfare of the people of the city. The Institute has entered into a ten-year contract with the City of New York whereby, in return for certain tax-derived payments, the Institute will conduct research in the different health problems affecting the community. The Institute is not, however, under contractual obligations to entertain each and all of the research problems brought to it by the various city departments. The Institute's research program is under the supervision of a research council composed of individuals distinguished in the field of medicine and public health.

The particular advantages in establishing the Research Institute, apart from the substantial sums of tax money thus made available for research, lie in the fact that the Institute can operate under a mobile an-

nual budget. It is at liberty to spend its funds according to the current needs in research. The Institute is free to select its personnel from wherever it wishes and for such length of time and under such contractual conditions as it sees fit. The Institute may "farm out" portions of its research problems and enlist the co-operation of other research institutions. It is, in other words, completely free to pursue its research program. The Institute can also accept grants from private foundations for particular research projects.

The Public Health Research Institute of New York City very effectively overcomes certain disabilities that have heretofore hampered medical research conducted within the rigid framework of the official health department organization. It makes available to the city a research institute which has easy access to the research organizations and resources of the country. It forms a binding link between the official health organization and the private and academic medical research organizations of the country. The Institute is an organization whose activities will be watched with interest and which may well prove an example to be copied by other communities.

### REPORTS AND STUDIES

The promotion of public health implies the application of medical knowledge to the wellbeing of the people. In a large measure it is achieved by the education of the public in the care of its health.

For more than half a century there has been in existence a quasi professional group known as health educators. But the "discipline" of health education has been only vaguely defined and is but loosely organized. In recent years these deficiencies in health education have been fully recognized and efforts are being made to correct them. This is part of the larger movement to "professionalize public health." Under the leadership of the Committee on Professional Education of the American Public Health Association, cooperating with

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a similar Committee of the State and Provincial Health Authorities of North America and the United States Public Health Service, a series of studies have been made and reports have been issued on the desirable professional qualifications of health officers, public health nurses, industrial nurses, public health engineers, public health statisticians, industrial hygienists, nutritionists in public health positions, and health educators. An increasing number of state and local health departments have adopted the procedures and qualifications recommended in these reports and are selecting their public health personnel accordingly. Similar standards have been set for the graduate training of public health personnel. ("Minimum Facilities Desirable for the Graduate Training of Public Health Personnel," *American Journal of Public Health*, May 1942.)

The American Association of Medical Colleges devoted its last annual meeting to a consideration of the ways in which the teaching of public health to undergraduate medical students could be improved.

### SPECIFIC RESEARCH

From the laboratory and research institutes have come a number of con-

tributions valuable to public health. Thus, Dr. William Hommon working under the direction of Dr. Karl F. Meyer at the Hooper Foundation, San Francisco, reported that both the St. Louis type and the western equine type of encephalitis virus are commonly transmitted by the *Culex tarsalis* mosquito and possibly several other species, and that there is a large animal reservoir of both domestic and wild animals for this virus. This report promises the possibility for the control of the equine type of encephalitis and reopens the possibility of finding an insect vector for poliomyelitis.

An extension of the technique of the cultivation of viruses on the yolk sack of the egg has further enlarged our resources in the study of this order of pathogenic agents.

Of great interest and much promise is the work which has been done in recent years and which was notably advanced in 1942 in the treatment of certain types of cancer with endocrine substances (notably the estrogenic treatment of prostatic carcinoma). A very able summary of this work is available in the report by Dr. C. P. Rhoads published in the *Annual Report* of the Memorial Hospital.

## VITAL STATISTICS

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### THE SCOPE OF NATIONAL VITAL STATISTICS

The primary function of the Division of Vital Statistics in the United States Bureau of the Census is to prepare the national statistics of births and deaths. To accomplish this end, transcripts of the original birth and death certificates are bought from the states by the Bureau. These transcripts are then coded, classified, tabulated, and published. Statistical tabulations are also made from lists sent to the Bureau on the pa-

tients in mental institutions and the prisoners in the penal institutions throughout the country.

In order to obtain accurate and timely vital statistics it is essential that the Bureau devote energy to the problems faced by the states relative to the processes of collection, preservation, and certification. This involves a variety of services in connection with the promotion of complete registration of births and deaths throughout the country. Among these are: coordination of the vital

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statistics work of state, city and county health departments; stimulation of uniform vital statistics legislation and standards; and promotion of registration completeness through field contacts, educational campaigns, and tests for completeness of registration.

### UNIFORM VITAL STATISTICS ACT

In 1939 the United States Bureau of the Census presented to the National Conference of Commissioners on Uniform State Laws for its consideration a draft of a tentative Uniform Act on Vital Statistics. This act was carefully considered section by section by the Conference at San Francisco, and a special committee of the Conference was formed which worked on the draft throughout the year and submitted a revision at the annual meeting of the Conference in Philadelphia in 1940. After a year devoted to criticism and testing of the act it was approved by the Conference at Indianapolis in 1941 with certain minor revisions, but was not promulgated by the Conference pending approval by the American Bar Association. This final draft was approved by the American Bar Association at its Detroit meeting in 1942.

### PUBLICATIONS

Vital statistics information is made available in annual publications and in periodic releases. Special reports on diverse subjects are also issued.

The annual volume of birth, still-birth, infant mortality and mortality statistics for 1940 has been completed and will appear in two parts: *Vital Statistics of the United States, Part I*, containing mortality and natality data by place of occurrence, and *Part II*, containing mortality and natality data by place of residence. The annual volumes on *Patients in Mental Institutions for 1940*, and *Prisoners in State and Federal Prisons and Reformatories for 1940*, will be published in the near future. The *Weekly Mortality Index*, *Weekly Motor Vehicle Accident Deaths*, *The Registrar*, the *Monthly Vital Statistics Bulletin* and

Volumes 13, 14, 15 and 16 of the *Vital Statistics-Special Reports Series* were all published through the year. Volume 13 of the *Vital Statistics-Special Reports Series* is devoted to data resulting from a survey of hospital and other institutional facilities and services.

Since 1935 the Division of Vital Statistics has included in its study of mortality statistics the information as to whether the death occurred in, or not in, an institution. In order to show this institutional relationship in connection with mortality tabulations, it was necessary not only to determine how many deaths occurred in institutions, but also to allocate these deaths by such factors as kind of institution and type of control. In order to explain the differences in institutional mortality by areas, and to describe the importance of these differences in relation to the available hospital and other medical-care facilities, it was decided that a survey be made requesting general information on facilities and their use. Four definite problems are presented in this analysis: (1) the problem of classification, (2) the nonregistered group of medical-care institutions, (3) the occupancy rate as an index of morbidity and a measurement of adequacy, and (4) number of institution beds as related to population.

Volume 16 of the *Vital Statistics-Special Reports Series* is devoted to a set of special mortality summaries and includes data from 1900 to 1940 as well as more detailed data for the year 1940. To date, 60 numbers of this series have been printed. The first 59 include an introduction, summary for all deaths, and a separate issue for each selected cause of death that lists concisely in four pages the salient facts about that particular cause. Number 60 is a detailed summary on infant mortality.

The remaining five summaries still to be published will not be confined to four pages and will cover total deaths and deaths from selected causes for the pre-school group (1 to 4 years), young adults (15 to 24 years), adults (25 to 44 years), middle



TABLE 1.—TRENDS OF DEATH AND BIRTH RATES FOR THE REGISTRATION STATES  
(Exclusive of Stillbirths)

Year	Estimated Population of Continental United States	Death Registration States in Continental United States				Birth Registration States in Continental United States			
		Population		Deaths		Population		Births	
		Number	Per Cent of Total	Number	Rate Per 1,000 Popu- lation	Number	Per Cent of Total	Number	Rate Per 1,000 Popu- lation
1941.....	133,217,064	133,217,064	100.0	1,397,642	10.5	133,217,064	100.0	2,513,427	18.9
1940.....	131,970,224	131,970,224	100.0	1,417,269	10.7	131,970,224	100.0	2,360,399	17.9
1939.....	130,879,718	130,879,718	100.0	1,387,897	10.6	130,879,718	100.0	2,265,588	17.3
1938.....	129,824,939	129,824,939	100.0	1,381,391	10.6	129,824,939	100.0	2,286,962	17.6
1937.....	128,824,829	128,824,829	100.0	1,450,327	11.3	128,824,829	100.0	2,203,337	17.1
1936.....	128,053,180	128,053,180	100.0	1,479,228	11.6	128,053,180	100.0	2,144,790	16.7
1935.....	127,250,232	127,250,232	100.0	1,392,752	10.9	127,250,232	100.0	2,155,105	16.9
1934.....	126,373,773	126,373,773	100.0	1,396,903	11.1	126,373,773	100.0	2,167,636	17.2
1933.....	125,578,763	125,578,763	100.0	1,342,106	10.7	125,578,763	100.0	2,081,232	16.6
1932.....	124,840,471	118,908,899	95.2	1,293,269	10.9	118,903,899	95.2	2,074,042	17.4
1931.....	124,039,648	118,148,987	95.3	1,307,273	11.1	117,455,229	94.7	2,112,760	18.0
1930.....	123,076,741	117,238,278	95.3	1,327,240	11.3	116,544,946	94.7	2,206,958	18.9
1929.....	121,769,939	115,317,450	94.7	1,369,757	11.9	115,317,450	94.7	2,169,920	18.8
1928.....	120,501,115	113,636,160	94.3	1,361,987	12.0	113,636,160	94.3	2,233,149	19.7
1927.....	119,038,062	107,084,532	90.0	1,211,627	11.3	104,320,830	87.6	2,137,836	20.5
1926.....	117,399,225	103,822,683	88.4	1,257,256	12.1	90,400,590	77.0	1,856,068	20.5
1925.....	115,831,963	102,031,555	88.1	1,191,809	11.7	88,294,564	76.2	1,878,880	21.3
1924.....	114,113,463	99,318,098	87.0	1,151,076	11.6	87,000,295	76.2	1,930,614	22.2
1923.....	111,949,945	96,788,197	86.5	1,174,065	12.1	81,072,123	72.4	1,792,646	22.1
1922.....	110,051,778	92,702,901	84.2	1,083,952	11.7	79,560,746	72.3	1,774,911	22.3
1921.....	108,541,489	87,814,447	80.9	1,009,673	11.5	70,807,090	65.2	1,714,261	24.2
1920.....	106,466,420	86,079,263	80.9	1,118,070	13.0	63,597,307	59.7	1,508,874	23.7
1919.....	104,512,110	83,157,982	79.6	1,072,263	12.9	61,212,076	58.6	1,373,438	22.4
1918.....	103,202,801	79,008,412	76.6	1,430,079	18.1	55,153,782	53.4	1,363,639	24.7
1917.....	103,265,913	70,234,775	68.0	981,239	14.0	55,197,952	53.5	1,353,792	24.9
1916.....	101,965,984	66,971,177	65.7	924,971	13.8	32,944,013	32.3	818,983	24.9
1915.....	100,549,013	61,894,847	61.6	815,500	13.2	31,096,697	30.9	776,304	25.0
1914.....	99,117,567	60,963,309	61.5	810,914	13.2				

# VITAL STATISTICS

Year	Estimated Population of Continental United States	Death Registration States in Continental United States				Birth Registration States in Continental United States			
		Population		Deaths		Population		Births	
		Number	Per Cent of Total	Number	Rate Per 1,000 Popu- lation	Number	Per Cent of Total	Number	Rate Per 1,000 Popu- lation
1913.....	97,226,814	58,156,740	59.8	802,909	13.8				
1912.....	95,331,300	54,847,700	57.5	745,771	13.6				
1911.....	93,867,814	53,929,644	57.5	749,918	13.9				
1910.....	92,406,536	47,470,437	51.4	696,856	14.7				
1909.....	90,491,525	44,223,513	48.9	630,057	14.2				
1908.....	88,708,976	38,634,759	43.6	567,245	14.7				
1907.....	87,000,271	34,552,837	39.7	550,245	15.9				
1906.....	85,436,556	33,782,288	39.5	531,005	15.7				
1905.....	83,819,666	21,767,980	26.0	345,863	15.9				
1904.....	82,164,974	21,332,076	26.0	349,855	16.4				
1903.....	80,632,152	20,943,222	26.0	327,295	15.6				
1902.....	79,160,196	20,582,907	26.0	318,636	15.5				
1901.....	77,585,128	20,237,453	26.1	332,203	16.4				
1900.....	76,094,134	19,965,446	26.2	343,217	17.2				

<sup>1</sup> The District of Columbia is not included in the "Number of States," though it is in both areas each year.

TABLE 2.—NATALITY AND MORTALITY DATA FOR EACH STATE: 1939-1941

(Exclusive of Stillbirths)

Area	Total Births			Total Deaths			Rate per 1,000 Population					
	1941	1940	1939	1941	1940	1939	Births		Deaths			
							1941 <sup>1</sup>	1940 <sup>2</sup>	1939 <sup>3</sup>	1941 <sup>1</sup>	1940 <sup>2</sup>	1939 <sup>3</sup>
United States . . . . .	2,513,427	2,360,399	2,265,588	1,397,642	1,417,269	1,387,897	18.9	17.9	17.3	10.5	10.7	10.6
Alabama . . . . .	64,238	62,925	61,385	28,715	29,531	28,301	22.7	22.2	21.7	10.1	10.4	10.0
Arizona . . . . .	12,011	11,754	10,928	5,989	5,815	5,851	24.1	23.5	22.2	12.0	11.6	11.9
Arkansas . . . . .	40,437	38,339	35,565	16,250	17,052	16,514	20.7	19.7	18.2	8.3	8.7	8.5
California . . . . .	124,682	112,011	103,453	81,421	80,270	77,130	18.1	16.2	15.3	11.8	11.6	11.4
Colorado . . . . .	21,400	21,154	20,692	12,108	12,430	12,558	19.1	18.8	18.6	10.8	11.1	11.3
Connecticut . . . . .	28,526	25,195	23,463	18,047	17,886	17,696	16.7	14.7	13.9	10.6	10.5	10.5
Delaware . . . . .	5,121	4,597	4,384	3,241	3,261	3,169	19.2	17.2	16.7	12.2	12.2	12.1
Dist. of Columbia . . . . .	18,294	15,309	14,037	8,670	8,637	8,292	24.7	22.6	21.3	11.7	12.8	12.6
Florida . . . . .	37,551	33,818	32,328	23,123	22,926	21,295	19.8	17.8	17.6	12.2	12.1	11.6
Georgia . . . . .	68,244	64,998	64,751	31,736	32,513	31,843	21.8	20.8	20.7	10.2	10.4	10.2
Idaho . . . . .	11,715	11,712	11,068	4,446	4,890	4,753	22.3	22.3	21.5	8.5	9.3	9.2
Illinois . . . . .	134,451	123,198	117,841	85,497	88,231	86,994	17.0	15.6	15.0	10.8	11.2	11.0
Indiana . . . . .	66,036	61,963	58,349	39,701	40,402	39,510	19.3	18.1	17.1	11.6	11.8	11.6
Iowa . . . . .	46,826	45,464	43,765	25,743	26,376	26,465	18.4	17.9	17.4	10.1	10.4	10.5
Kansas . . . . .	30,143	28,695	29,115	18,467	18,622	18,469	16.7	15.9	15.0	10.3	10.3	10.1
Kentucky . . . . .	63,430	63,591	60,587	30,115	29,733	29,507	22.3	22.3	21.5	10.6	10.4	10.5
Louisiana . . . . .	54,672	50,916	48,844	24,066	25,648	24,521	23.1	21.5	20.8	10.2	10.8	10.8
Maine . . . . .	15,855	15,119	14,987	10,451	10,580	10,815	18.7	17.8	17.8	12.3	12.5	12.8
Maryland . . . . .	34,287	30,251	28,291	21,967	22,107	20,831	18.8	16.6	15.8	12.1	12.1	11.6
Massachusetts . . . . .	70,189	66,114	63,657	50,709	51,156	50,917	16.3	15.3	14.5	11.7	11.9	11.6
Michigan . . . . .	107,511	99,108	94,418	52,670	52,108	52,019	20.5	18.9	18.3	10.0	9.9	10.1
Minnesota . . . . .	54,462	53,083	50,237	26,618	26,814	26,784	19.5	19.0	18.2	9.5	9.6	9.7
Mississippi . . . . .	54,454	52,575	51,721	22,575	23,154	22,646	24.9	24.1	23.8	10.3	10.6	10.4
Missouri . . . . .	66,050	62,172	58,776	43,128	43,746	42,585	17.5	16.4	15.6	11.4	11.6	11.3
Montana . . . . .	11,437	11,492	10,897	5,626	5,728	5,901	20.4	20.5	19.7	10.1	10.2	10.7
Nebraska . . . . .	22,197	22,162	22,338	12,203	12,592	12,194	16.9	16.8	17.0	9.3	9.6	9.3
Nevada . . . . .	2,181	2,061	1,940	1,400	1,404	1,263	19.8	18.7	18.0	12.7	12.7	11.7
New Hampshire . . . . .	8,743	8,503	7,934	6,114	6,255	6,301	17.8	17.3	16.2	12.4	12.7	12.9

# VITAL STATISTICS

Area	Total Births				Total Deaths				Rate per 1,000 Population			
	1941	1940	1939	1941	1940	1939	1941 <sup>1</sup>	1940 <sup>2</sup>	1939 <sup>3</sup>	1941 <sup>1</sup>	1940 <sup>2</sup>	1939 <sup>3</sup>
New Jersey.....	65,935	58,617	56,379	45,441	45,086	43,959	15.8	14.1	13.6	10.9	10.8	10.6
New Mexico.....	14,774	14,744	14,215	5,720	5,593	5,917	27.8	27.7	27.2	10.8	10.5	11.3
New York.....	211,171	196,888	187,575	147,688	149,946	149,501	15.7	14.6	13.9	11.0	11.1	11.1
North Carolina.....	84,634	80,582	79,149	31,956	32,081	31,793	23.7	22.6	22.4	8.9	9.0	9.0
North Dakota.....	13,464	13,356	13,158	5,302	5,235	5,424	20.5	20.8	20.5	8.3	8.2	8.5
Ohio.....	126,155	114,900	109,272	77,963	78,662	76,927	18.3	16.6	15.8	11.3	11.4	11.1
Oklahoma.....	45,447	44,574	43,471	19,967	20,461	20,391	19.5	19.1	18.6	8.5	8.8	8.7
Oregon.....	19,138	17,848	16,715	12,108	12,310	11,797	17.6	16.4	15.5	11.1	11.3	10.9
Pennsylvania.....	174,593	165,680	161,049	108,215	111,498	108,007	17.6	16.7	16.4	10.9	11.3	11.0
Rhode Island.....	11,582	10,805	10,444	7,864	7,984	7,775	16.2	15.1	14.9	11.0	11.2	11.1
South Carolina.....	47,162	44,380	42,811	20,523	20,186	19,296	24.8	23.4	22.6	10.8	10.6	10.2
South Dakota.....	11,647	11,619	11,616	5,365	5,454	5,517	18.1	18.1	18.0	8.3	8.5	8.6
Tennessee.....	60,537	55,815	53,353	29,193	29,904	28,722	20.8	19.1	18.6	10.0	10.3	10.0
Texas.....	136,291	126,687	121,049	60,424	62,503	60,218	21.2	19.7	19.1	9.4	9.7	9.5
Utah.....	13,745	13,559	13,007	4,560	4,925	4,712	25.0	24.6	24.0	8.3	8.9	8.7
Vermont.....	6,762	6,694	6,375	4,322	4,610	4,544	18.8	18.6	17.8	12.0	12.8	12.7
Virginia.....	58,582	55,208	52,921	30,464	29,379	28,636	21.9	20.6	19.6	11.4	11.0	10.6
Washington.....	30,567	28,141	26,538	19,106	20,069	18,516	17.6	16.2	15.6	11.0	11.5	10.9
West Virginia.....	43,827	42,103	41,545	17,838	17,626	17,490	23.0	22.1	22.0	9.4	9.3	9.3
Wisconsin.....	57,120	54,848	54,168	30,629	31,614	31,424	18.2	17.5	17.4	9.8	10.1	10.1
Wyoming.....	5,181	5,052	4,897	2,198	2,136	2,207	20.7	20.1	19.8	8.8	8.5	8.9

<sup>1</sup> Rates for the United States and the District of Columbia are based on estimated population as of July 1, 1941; for individual states, rates are based on enumerated population as of April 1, 1940.

<sup>2</sup> Rates for the United States and the District of Columbia are based on estimated population as of July 1, 1940; for individual states, rates are based on enumerated population as of April 1, 1940.

<sup>3</sup> All rates are based on estimated population for 1939.



TABLE 3.—DEATH RATES FOR SELECTED CAUSES; REGISTRATION STATES, 1931-1941

Line No.	Cause of Death	Death Rate (Number per 100,000 Estimated Population)											Line No.
		1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	
1	All causes.....	1,048.5	1,073.9	1,060.4	1,064.0	1,125.9	1,155.2	1,094.5	1,105.4	1,068.7	1,087.7	1,106.5	1
2	Typhoid and paratyphoid fever.....	0.8	1.1	1.5	1.9	2.1	2.5	2.8	3.4	3.6	3.7	4.5	2
3	Cerebrospinal (meningococcus) meningitis.....	0.5	0.5	0.7	0.8	1.7	2.4	2.1	1.0	1.2	1.4	2.4	3
4	Scarlet fever.....	0.3	0.5	0.7	0.9	1.4	1.9	2.1	2.0	2.0	2.2	2.2	4
5	Whooping cough.....	2.8	2.2	2.3	3.7	3.9	2.1	3.1	5.9	3.6	4.5	4.5	5
6	Diphtheria.....	1.0	1.1	1.5	2.0	2.0	2.4	3.1	3.3	3.9	4.4	4.8	6
7	Tuberculosis (total).....	44.4	45.8	47.1	49.1	53.8	55.9	55.1	56.7	59.6	62.5	67.8	7
8	Tuberculosis of the respiratory system.....	40.8	42.1	43.1	44.7	49.2	50.8	49.9	51.2	53.7	56.1	60.4	8
9	Tuberculosis (other forms).....	3.7	3.7	4.0	4.4	4.7	5.1	5.2	5.5	5.9	6.4	7.4	9
10	Dysentery.....	1.8	1.9	1.9	2.3	2.3	2.4	1.9	2.7	2.2	1.7	2.0	10
11	Malaria.....	0.9	1.1	1.3	1.8	2.1	3.1	3.5	3.6	3.7	2.1	2.1	11
12	Syphilis (all forms).....	13.3	14.4	15.0	15.9	16.1	16.2	15.4	15.9	15.1	15.4	15.4	12
13	Measles.....	1.7	0.5	0.9	2.5	1.2	1.0	3.1	5.5	2.2	1.6	3.0	13
14	Poliomyelitis and polioencephalitis (acute).....	0.6	0.8	0.6	0.4	1.1	0.6	0.8	0.7	0.6	0.7	1.8	14
15	Cancer and other malignant tumors.....	120.0	120.0	117.5	114.9	112.4	111.4	108.2	106.4	102.3	102.3	99.0	15
16	Cancer of the digestive organs and peritoneum.....	54.8	55.1	54.8	54.5	53.8	53.3	52.2	51.8	50.3	50.8	49.3	16
17	Cancer of the female genital organs.....	15.9	16.0	15.8	15.6	15.5	15.5	15.1	15.0	14.4	14.6	14.2	17
18	Cancer of the breast.....	11.6	11.7	11.4	11.1	10.8	10.7	10.4	10.4	9.9	9.9	9.6	18
19	Cancer (other sites).....	37.6	37.1	35.6	33.7	32.2	31.9	30.5	29.2	27.6	27.0	25.9	19
20	Acute rheumatic fever.....	1.2	1.3	1.3	1.6	1.5	1.7	1.8	1.8	2.0	2.2	2.2	20
21	Diabetes mellitus.....	25.4	26.5	25.5	23.9	23.7	23.7	22.3	22.2	21.4	22.0	20.4	21
22	Exophthalmic goiter.....	2.5	2.8	2.8	2.9	2.9	3.0	2.8	2.8	2.7	3.1	3.2	22
23	Pellagra (except alcoholic).....	1.4	1.6	1.8	2.5	2.5	2.9	2.8	2.9	3.1	3.0	4.2	23
24	Alcoholism (ethylishm).....	1.8	1.9	2.0	2.0	2.6	2.9	2.6	2.9	2.6	2.5	3.3	24
25	Intracranial lesions of vascular origin.....	89.0	90.7	87.8	85.9	86.7	91.0	85.7	85.5	84.1	87.5	86.8	25
26	Other diseases of the nervous system, etc.....	10.6	10.7	10.9	11.4	12.4	13.5	12.9	12.8	12.6	12.6	13.8	26
27	Diseases of the ear, nose, and throat.....	4.3	5.3	5.7	6.5	7.4	8.4	8.7	8.8	8.5	8.4	9.2	27
28	Diseases of the heart.....	289.7	291.9	275.5	269.7	263.9	266.6	245.4	240.3	228.0	224.1	213.4	28
29	Chronic rheumatic diseases of the heart.....	19.7	20.8	20.0	...	...	...	...	...	...	...	...	29

# VITAL STATISTICS

Line No.	Cause of Death	Death Rate (Number per 100,000 Estimated Population)											Line No.
		1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	
30	Diseases of the coronary arteries and angina pectoris.....	80.4	76.9	68.3	...	...	...	...	...	...	...	...	30
31	Diseases of the heart (other forms) 90b, 91, 92a, d, e, 93a, b, d, e, 95a, c	189.5	194.2	187.2	...	...	...	...	...	...	...	...	31
32	Pneumonia (all forms) and influenza.....	63.7	70.1	75.7	80.4	114.9	119.6	104.2	96.9	95.7	107.3	107.5	32
33	Bronchopneumonia.....	23.6	26.2	27.1	30.5	35.6	36.9	33.5	33.2	29.6	32.5	33.5	33
34	Lobar pneumonia.....	20.8	25.1	29.3	34.3	46.7	52.9	45.3	43.4	36.4	41.1	44.4	34
35	Pneumonia (unspecified).....	3.6	3.5	2.9	3.0	3.1	3.4	3.2	3.1	3.2	3.1	3.1	35
36	Influenza.....	15.8	15.3	16.4	12.7	29.5	26.4	22.2	17.3	26.4	30.6	26.5	36
37	Ulcer of stomach or duodenum.....	6.6	6.8	6.8	6.5	6.8	6.7	6.6	6.1	6.0	6.0	6.1	37
38	Diarrhea, enteritis, etc.....	10.5	10.3	11.6	14.3	14.7	16.4	14.1	18.4	17.3	16.1	20.5	38
39	Appendicitis.....	8.1	9.8	10.8	11.0	11.9	12.9	12.7	14.3	14.1	14.1	15.1	39
40	Hernia and intestinal obstruction.....	8.7	9.0	9.4	9.7	10.2	10.5	10.3	10.3	10.0	10.1	10.5	40
41	Cirrhosis of the liver.....	8.9	8.6	8.3	8.3	8.5	8.3	7.9	7.7	7.4	7.2	7.4	41
42	Biliary calculi, etc.....	5.7	6.0	6.2	6.5	6.7	6.9	6.7	7.0	6.9	7.0	7.4	42
43	Nephritis.....	75.0	81.3	82.9	77.4	79.9	83.5	81.3	84.3	83.0	87.4	87.4	43
44	Diseases of the prostate.....	6.2	6.6	6.6	6.4	6.7	6.9	6.7	6.6	6.1	5.6	5.5	44
45	Diseases of pregnancy, childbirth, and the puerperium.....	6.0	6.7	7.0	7.7	8.4	9.5	9.9	10.2	10.3	11.0	11.9	45
46	Puerperal septicaemia.....	2.3	2.7	2.9	2.6	2.9	3.6	4.1	4.0	3.9	4.1	4.5	46
47	Puerperal toxemias.....	1.5	1.7	1.7	1.9	2.1	2.2	2.1	2.4	2.4	2.6	3.0	47
48	Other puerperal causes..... 141b, d, e, f 142b, 143, 145, 146, 419, 150	2.2	2.3	2.4	3.2	3.4	3.7	3.6	3.8	3.9	4.3	4.3	48
49	Congenital malformations.....	10.4	10.0	9.5	9.3	9.2	9.4	9.3	10.0	9.6	10.3	11.0	49
50	Premature birth.....	25.0	24.5	24.6	25.2	26.1	26.3	26.0	27.8	26.2	27.5	28.8	50
51	Suicide.....	12.8	14.3	14.1	15.3	15.0	14.3	14.3	14.9	15.9	17.4	16.8	51
52	Homicide.....	5.9	6.2	6.4	6.8	7.6	8.0	8.3	9.5	9.7	9.0	9.2	52
53	Motor-vehicle accidents.....	30.0	26.1	24.7	25.1	30.8	29.7	28.6	28.6	25.0	23.6	27.1	53
54	Other accidents.....	46.2	47.3	46.0	47.2	50.9	56.2	49.8	51.3	47.4	47.7	51.3	54
55	All other causes.....	104.6	107.6	105.3	104.4	108.7	114.6	110.9	114.4	112.9	112.5	117.8	55

### XXIII. MEDICAL SCIENCES

age (45 to 64 years), and later life (65 years and over). These releases will also show data for 1940 and summarize data from 1900-1940.

The entire volume has proved to be most popular among physicians and health workers. Thousands of copies have been devoted to teaching purposes.

As a part of the 16th Decennial Census program a volume of vital statistics rates in the United States from 1900 to 1940 has been prepared and sent to the printer. The present volume contains a discussion of the basic qualifying factors of vital statistics, comments on the definition and interpretation of crude and specific rates, critique and survey of the literature dealing with various mortality indices, detailed time-trend tables of mortality and natality, birth and death data for states and smaller geographic areas for 1940 based on data tabulated by place of residence, and population estimates on which all crude and specific rates are based.

The most essential part of this volume is a series of death rates specific for cause, age, sex, race, and area. These are the foundations on which all thorough analyses must be based. Since crude rates show only the broad changing picture of natality and mortality, specific rates must be used for accurate study of detail. With these "raw materials" the biostatistician can proceed with his own analyses and studies.

#### **THE WAR AND THE VITAL RECORDS SYSTEM**

Since the declarations of war, the burdens of already over-worked vital statistics offices throughout the United States have tremendously increased in size, and the requests for their services have become more urgent. Many normal activities have necessarily been suspended or curtailed because of the flood of requests for delay birth registrations and certified copies of birth certificates as a result of the necessity for proof of age and citizenship in connection with securing employment in war industries.

A national Commission on Vital Records, charged with the particular duty of studying and making recommendations for the improvement of the vital statistics system, was formed late in 1941 at the request of the Association of State Health Executives and the American Association of Registration Executives. This Commission is a subcommittee of the Health and Medical Committee of the Office of Defense Health and Welfare Services, which is directly responsible to the Federal Security Administrator.

In July, when authority was given to the Vital Records Commission to broaden its scope of study from the vital statistics system to the subject of national registration, its membership was also expanded. The following agencies and groups are now represented on the Commission: State and Territorial Health Officers Association, Association of State Registration Executives, War Department, Navy Department, Department of Justice, Office of Price Administration, Office of Civilian Defense, Social Security Board, Public Health Service, Office of Defense Health and Welfare, War Manpower Commission, Budget Bureau, and the Bureau of the Census.

The recommendations of the Vital Records Commission are still unavailable. Whether or not they might lead to a fundamental reorganization or a strengthening of the Vital Records System of the country is not yet known.

#### **BIRTH REGISTRATION TEST PROJECT**

This project, started in 1940, has now been largely completed. The completeness of registration of births for the United States as a whole was found to be 92.5 per cent. During 1942, a great deal of field work was carried on in connection with securing improvements in completeness of birth registration. This move would not have been possible without the exact knowledge resulting from the birth registration test project.

## PERIODICAL PUBLICATIONS

### CURRENT MORTALITY SAMPLING

The sudden and violent changes in the health of a nation during war-time have made necessary the availability of more contemporary information on nation-wide mortality conditions. The Division of Vital Statistics has, therefore, begun a current index of mortality based upon a relatively small sample of death certificates.

### COOPERATION WITH THE AMERICAN REPUBLICS

The Bureau of the Census has secured an allotment of funds for cooperation in vital statistics with the American republics. The plan involves the employment of three professionally trained traveling consultants who will, upon the request of any American republic, consult with, advise, and give technical assistance to the officials of that republic in a cooperative endeavor to improve their vital and medical statistics organizations and data. In so far as practicable, this work will be integrated with that of existing international organizations concerned with public health and statistics such as the Pan-American Sanitary Bureau

and the Inter-American Statistical Institute. The requests for technical assistance have been numerous. Among the projects which are to be carried out is the provision of technical assistance in obtaining a population census of Haiti and assisting in the organization of Central American Vital Statistics, and Peruvian and Bolivian Vital Statistics.

### UNITED STATES SUMMARY OF VITAL STATISTICS

In 1941, 2,513,427 births and 1,397,642 deaths were reported for the United States, an increase of 153,028 births and a decrease of 19,627 deaths, as compared with the corresponding figures for the preceding year. The 1941 birth rate of 18.9 per 1,000 population represents an increase of 5.6 per cent over the rate for 1940 and was the highest recorded for the birth registration area since 1931.

The death rate decreased from 10.7 in 1940 to 10.5 per 1,000 population in 1941, and was the lowest ever reported for the death registration states. The infant and maternal mortality rates also reached the lowest level in the history of the registration system.

## PERIODICAL PUBLICATIONS

*American Druggist*  
572 Madison Ave., New York City.  
*American Journal of Anatomy*  
36th Street and Woodland Aves.,  
Philadelphia.  
*American Journal of Clinical Pathology*  
Mount Royal and Guilford Aves.,  
Baltimore, Md.  
*American Journal of the Medical Sciences*  
600 Washington Sq., Philadelphia.  
*American Journal of Nursing*  
1790 Broadway, New York City.  
*American Journal of Obstetrics and Gynecology*  
3523 Pine Boulevard, St. Louis, Mo.  
*American Journal of Pathology*  
818 Harrison Ave., Boston.

*American Journal of Pharmacy*  
Philadelphia College of Pharmacy  
and Science, Philadelphia.  
*American Journal of Public Health  
and the Nation's Health*  
1790 Broadway, New York City.  
*American Journal of Surgery*  
49 West 45th Street, New York  
City.  
*Anatomical Record*  
36th Street and Woodland Ave.,  
Philadelphia.  
*Annals of Medical History*  
49 East 33rd Street, New York City.  
*Annals of Surgery*  
227 South Sixth Street, Philadel-  
phia.



### XXIII. MEDICAL SCIENCES

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| <p><i>Journal of the American College of Dentists</i><br/>632 West 168th Street, New York City.</p> <p><i>Journal of the American Dental Association</i><br/>212 East Superior Street, Chicago.</p> <p><i>Journal of the American Institute of Homeopathy</i><br/>280 Madison Ave., New York City.</p> <p><i>Journal of the American Medical Association</i><br/>535 North Dearborn Street, Chicago.</p> <p><i>Journal of the American Pharmaceutical Association</i><br/>2215 Constitution Ave., Washington, D. C.</p> <p><i>Journal of Bacteriology</i><br/>Mount Royal and Guilford Aves., Baltimore, Md.</p> <p><i>Journal of Bone and Joint Surgery</i><br/>8 The Fenway, Boston.</p> <p><i>Journal of Clinical Investigation</i><br/>654 Madison Ave., New York City.</p> <p><i>Journal of Dental Research</i><br/>632 West 168th Street, New York City.</p> <p><i>Journal of Experimental Medicine</i><br/>York Ave. and 66th Street, New York City.</p> | <p><i>Journal of Infectious Diseases</i><br/>629 South Wood Street, Chicago.</p> <p><i>Journal of Nervous and Mental Disease</i><br/>64 West 56th Street, New York City.</p> <p><i>Journal of Pharmacology and Experimental Therapeutics</i><br/>Mount Royal and Guilford Aves., Baltimore, Md.</p> <p><i>Journal of Social Hygiene</i><br/>1790 Broadway, New York City.</p> <p><i>Medical Life</i><br/>4 St. Luke's Place, New York City.</p> <p><i>Medical Record</i><br/>70 Orange St., Bloomfield, N. J.</p> <p><i>Medical Review of Reviews</i><br/>4 St. Luke's Place, New York City.</p> <p><i>Medicine</i><br/>Mount Royal and Guilford Aves., Baltimore, Md.</p> <p><i>N. Y. State Journal of Medicine</i><br/>292 Madison Ave., New York City.</p> <p><i>Radiology</i><br/>607 Medical Arts Building, Syracuse, N. Y.</p> <p><i>Surgery, Gynecology and Obstetrics</i><br/>54 East Erie Street, Chicago.</p> <p><i>Yale Journal of Biology and Medicine</i><br/>New Haven, Conn.</p> |
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### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

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| <p>ACADEMY OF MEDICINE, 2 E. 103rd St., New York City.</p> <p>ALLIANCE AGAINST FRAUDS, 36 W. 44th St., New York City.</p> <p>ALLIED DENTAL COUNCIL, 145 W. 57th St., New York City.</p> <p>AMERICAN ACADEMY OF APPLIED DENTAL SCIENCE, 587 Fifth Ave., New York City.</p> <p>AMERICAN COLLEGE OF SURGEONS, 40 E. Erie St., Chicago, Ill.</p> <p>AMERICAN GYNECOLOGICAL SOCIETY, 842 Park Ave., New York City.</p> <p>AMERICAN HEART ASSN., INC., 1790 Broadway, New York City.</p> <p>AMERICAN INSTITUTE OF HOMEOPATHY, 280 Madison Ave., New York City.</p> <p>AMERICAN LARYNGOLOGICAL, RHINOLOG-</p> | <p>ICAL AND OTOLOGICAL SOCIETY, INC., 708 Medical Arts Bldg., Rochester, N. Y.</p> <p>AMERICAN MEDICAL ASSN., 535 N. Dearborn St., Chicago, Ill.</p> <p>AMERICAN OPHTHALMOLOGICAL SOCIETY, 255 S. 17th St., Philadelphia, Pa.</p> <p>AMERICAN OSTEOPATHIC ASSN., 540 N. Michigan Ave., Chicago, Ill.</p> <p>AMERICAN PHYSIOLOGICAL SOCIETY, 303 E. Chicago Ave., Chicago, Ill.</p> <p>AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS, 531 N. Main St., South Bend, Ind.</p> <p>AMERICAN SOCIETY FOR THE CONTROL OF CANCER, INC., 350 Madison Ave., New York City.</p> |
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## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

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| <p>AMERICAN SOCIETY OF TROPICAL MEDICINE, Ohio State University College of Medicine, Columbus, Ohio.</p> <p>AMERICAN VETERINARY MEDICAL ASSN., 600 S. Michigan Ave., Chicago, Ill.</p> <p>ASSOCIATION OF AMERICAN MEDICAL COLLEGES, 5 S. Wabash Ave., Chicago, Ill.</p> <p>ASSOCIATION OF MILITARY SURGEONS OF THE U. S., Army Medical Museum, Washington, D. C.</p> <p>EDWARD L. TRUDEAU FOUNDATION FOR RESEARCH AND TEACHING IN TUBERCULOSIS, Saranac Lake, N. Y.</p> <p>NATIONAL LEAGUE OF NURSING EDUCATION, 1790 Broadway, New York City.</p> <p>NATIONAL TUBERCULOSIS ASSN., 1790 Broadway, New York City.</p> <p>NEW YORK ACADEMY OF SCIENCES,</p> | <p>77th St. and Central Park West, New York City.</p> <p>NEW YORK HEALTH DEPARTMENT, INC., 125 Worth St., New York City.</p> <p>OSTEOPATHIC ASSISTING SERVICE BUREAU, 60 East 42nd St., New York City.</p> <p>PUBLIC HEALTH COMMITTEE, 2 E. 103rd St., New York City.</p> <p>ROCKEFELLER FOUNDATION, 49 W. 49th St., New York City.</p> <p>SOCIETY OF AMERICAN BACTERIOLOGISTS, Agricultural Hall, University of Wisconsin, Madison, Wis.</p> <p>SOCIETY OF MEDICAL JURISPRUDENCE, 477 First Ave., New York City.</p> <p>SOUTHERN MEDICAL ASSN., 1928 First Ave., Birmingham, Ala.</p> <p>UNITED HOSPITAL FUND, 370 Lexington Ave., New York City.</p> |
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## DIVISION XXIV

### PHILOSOPHICAL AND SOCIAL SCIENCES

#### PSYCHOLOGY

BY WILBUR S. HULIN

LECTURER, OREGON STATE SYSTEM OF HIGHER EDUCATION

##### CURRENT TRENDS

**New Fields.**—The *Journal of Consulting Psychology* (Mar.-Apr.) contributes a series of articles on "new fields for psychologists" which may guide students toward productive careers; the topics presented include "Measurement of Public Opinion" by D. Katz, "Agriculture" by R. Tolman and R. Likert, "Child Psychology on the Radio" by A. T. Jersild, "Library Field" by A. I. Bryan, "Public Health" by M. Derryberry, "Art Museums" by B. Lark-Horovitz and F. H. Keith, "Family Consultation" by M. W. Bennett, "The Aged" by G. Lawton, and "Business" by D. Starch. In present-day psychology, G. R. and J. S. Thornton believe the following concepts are the most important for beginning students: statistical terms, methodological and social-psychological terms (*J. Educ. Psych.*, Jan.). Speaking of psychology's progress and the "armchair taboo," D. B. Klein claims that the science is now sufficiently mature to permit an exercise of contemplative thinking (*Psych. Rev.*, May). S. H. Britt outlines the European background (1600-1900) for American psychology (*J. Gen. Psych.*, Oct.).

**Leading Books.**—The following outstanding texts and general publications have appeared: K. F. Muenzinger, *Psychology, the Science of Behavior* (Harper); W. B. Pillsbury and L. A. Pennington, *Handbook of General Psychology* (Dryden); R. H. Seashore and others, *Fields of*

*Psychology* (Holt); F. C. Dockeray, *Psychology* (Prentice-Hall); J. S. Gray and others, *Psychology in Use* (Amer. Book); L. F. Shaffer and others, *Experiments and Demonstrations in Psychology* (Harper).

##### WAR

**Psychologists in Service.**—The *Psychological Bulletin* carries in each issue a special section on "psychology and the war" which will report the current professional activities of psychologists in national work: out of a total of 324 in June, 61 are in the U. S. Employment Service, 52 in the Army, 48 in the Army Air Force, 38 in the Navy, 18 in National Research Council research, 18 in the U. S. Public Health Service, 12 in the Department of Agriculture, 12 on the Civil Service Commission, seven in the U. S. Office of Education, seven on the N. Y. A. staff, six on the W. P. A. staff, six in the Office of Coordinator of Information, four on the Federal Communications Commission, and 35 miscellaneous. W. V. Bingham describes "the army personnel classification system" (*Ann. Amer. Acad. Pol. Soc. Sci.*, March).

**War Aids.**—The Emergency Committee of the Neuropsychiatric Societies offers a guide for training air-raid wardens to deal with emotional disturbances (G. S. Goldman), H. B. English outlines a number of ways in which psychologists can facilitate military training (*J. Appl. Psych.*, Feb.). S. S. Ballard indicates some

optical problems facing the Navy (*J. Optic. Soc. Amer.*, March). D. D. Day and O. F. Quackenbush submit a standardized rating scale with which to measure "attitudes toward defensive, cooperative and aggressive war" (*J. Soc. Psych.*, Aug.).

**Children and War.**—Schools interested in strengthening pupils for war hardships will be interested in a test on "the effects of war" designed by L. J. Cronbach, for the study of pupils' needs in the war situation. The reaction of children to black-outs, as described by J. C. Solomon, is mainly one of excitement rather than anxiety; girls exhibit less fear than do boys (*Amer. J. Orthopsychiatr.*, Apr.). R. C. Preston discusses *Children's Reactions to a Contemporary War Situation* (Columbia Univ.).

**Morale.**—J. G. Watkins depicts "offensive psychological warfare" as a coordination between military efforts, such as success in battle, and political efforts, especially of reducing enemy morale (*J. Consult. Psych.*, May). For progress in the national morale, C. McF. Campbell emphasizes the need of personal humility (*Ment. Hyg.*, Apr.). G. V. Sheviakov declares: "This is the time to rethink values seriously, to forget about personal 'facades' and to decide what life is really for." Strengthening of morale should begin first at home (*J. Psych.*, July). C. G. Wrenn cites as the principal emotional problem in civilian morale the need for emotional release through thoughtful activity: recognize the significance of present events and accept pain (*School & Soc.*, Aug.). G. Watson has edited a large symposium on *Civilian Morale* (Houghton, Mifflin).

#### PERSONALITY

**Improvement.**—R. Newton's book, *How to Improve Your Personality* (McGraw-Hill), is accompanied by a *Teacher's Manual*. Q. McNemar and M. A. Merrill have edited a volume of contributions in honor of L. M. Terman under the title, *Studies in Personality* (McGraw-Hill). A. Angyal's book, *Foundations for a Sci-*

*ence of Personality* (Commonwealth Fund), proposes a holistic theory of personality as "a homonomous trend of behavior toward environment." F. H. Sanford suggests a technique of analyzing personality through an examination of the grammatical components of speech and linguistic styles most frequently employed by an individual: such characteristics as definiteness, coordination, confidence, evaluativeness, etc. (*Char. & Pers.*, March).

**Tests.**—A useful personality test designed especially for use among industrial workers is the Adams-Lepley Personality Audit which W. R. Tubbs has favorably compared with the Bernreuter inventory (*J. Appl. Psych.*, June). D. E. Super reviews the research studies of the Bernreuter Personality Inventory (*Psych. Bull.*, Feb.). L. L. McQuitty points the way toward greater validity in personality inventories by advising the selection of questions according to the background of the subjects, questions equally answerable at various ages and under all conditions by any one subject (*J. Soc. Psych.*, Feb.). W. A. Clark and L. F. Smith reveal that there is poor agreement between the ratings of faculty members on the personal qualities of students and the self-rating scores of the students on themselves as measured by the Bell and Washburne inventories (*J. Educ. Psych.*, Feb.). A. L. Baldwin employs the frequency and contiguity of items in case studies for a "structure analysis" of individual personalities (*J. Abn. & Soc. Psych.*, Apr.). E. Frenkel-Brunswik devised several ratings of behavior to show that particular types of motivation are significant criteria of personality; the ratings were made on the following characteristics: energy output, social participation, social self-consciousness, popularity, leadership, social adjustment, irritability, tenseness, frequent mood swings, selfishness, and irresponsibility (*Genet. Psych. Monog.*, Nov.).

**Influences.**—Endocrines influence the development of personality to the extent that growth and vitality de-



fects are reflected in social conflicts and thus in personality (*Educ. Rec. Suppl.*, Jan.). Continued emphasis on the importance of phantasy in the expression of personality is described by S. Rosenzweig who refers to play, thema, ink-blots, etc. (*J. Abn. & Soc. Psych.*, Jan.). S. S. Sargent says that individual differences can best be studied by non-quantitative methods such as those offered by H. A. Murray (*Psych. Rev.*, March).

#### ABNORMAL

**Clinical Methods.**—In a survey of the present-day trends in the work of the clinical psychologist, G. E. Gardner predicts that clinical teamwork for remedial and therapeutic services will be increasingly accomplished; W. M. Mathews shows how clinical practices must include the cooperation of many professional groups in economic, medical, and legal fields; J. W. Mcfarlane points to the need of validation in the project work undertaken (*Amer. J. Orthopsychiatr.*, July). The *New York State Journal of Medicine* (Jan.) exposes the serious deficiencies in psychiatric care which is available for the American public, especially in the present time of emergency; for example, there is only one psychiatrist for every 50,000 persons in the U. S.; it is imperative that some inexpensive means be developed by mental hygiene societies for treating the mentally ill. A Psychodramatic Institute has been opened in New York City by J. L. Moreno for the diagnosis and treatment of groups in action. B. L. Clineberg gives practical instructions on *Endocrine Therapy* (Chemical Publ.) including a description of commercial endocrine products.

**Rorschach.**—B. Klopfer and D. M. Kelley bring to date the methods of *The Rorschach Technique* (World Book). There is a closer agreement between the total structure of the personality and the Rorschach diagnosis than between the latter and details of behavior derived from case studies, according to R. A. Young and S. A. Higgenbotham (*Amer. J. Ortho-*

*psychiatr.*, Jan.). R. Munroe has devised a method of large scale testing with the Rorschach system (*J. Psych.*, Apr.).

**Shock Therapy.**—A warning is uttered by B. L. Pacella and S. E. Barrera that the use of shock therapy may alter a latent predisposition for convulsions into an active condition (*J. Nerv. & Ment. Dis.*, Aug.). Metrazol weakens recent habit systems more than those established earlier, according to E. H. Rodnich (*J. Abn. & Soc. Psych.*, Oct.). In the use of metrazol shock as a treatment of psychosis, G. E. Charlton and others advise the use of curare to reduce the violent convulsions which accompany the treatment (*Arch. Neur. & Psychiatr.*, Aug.). G. W. Kisker claims that an approach to the analysis of personality patterns can be made during insulin or methrazol shocks (*J. Abn. & Soc. Psych.*, Jan.).

**Ill Health.**—Asthma is often accompanied by specific, conscious experiences which reveal an attempt to compensate for the restrictions caused by the ailment; P. L. Goitein offers illustrations as revealed through the phantasies and language of the patient (*J. Nerv. & Ment. Dis.*, Aug.). Tubercular patients tend to be unadjusted emotionally; the emotions vary widely and are not always in the direction of euphoria as previously supposed; emotional therapy aids physical recovery: I. T. Schultz (*J. Abn. & Soc. Psych.*, Apr.).

**Mental Hygiene.**—Can a hygienic attitude of the mind be learned? H. Meltzer says "yes." "Pivotal in learning to acquire mental health rather than emotional sickness is the shift of outlook of the patient or learner when he begins to talk and think and feel less about a condition and more about learning to live." Two conditions must be attained: (1) a feeling of being wanted—a selective dependence, and (2) a functional firmness of personality, rather than rigidity or looseness (*J. Appl. Psych.*, June).

PHYSIOLOGICAL

**Nervous System.**—W. J. S. Krieg's *Functional Neuroanatomy* (Blakiston) contains many fine three-dimensional representations of the central nervous system. S. R. Hathaway offers a *Physiological Psychology* (Appleton-Century) which relates in a vivid fashion the functions of the nervous system with the sensory, organic, and motor aspects of mental life. A fairly new development, called *Psychosurgery* (Thomas), is described by W. Freeman and J. W. Watts; prefrontal lobotomy has been performed upon psychotic patients especially in the case of excited and hyperactive states. The human head is a distinctive organ of behavior, writes S. Feldman, who traces the genetic evolution of the head functions in reference to posture, orientation, bodily control, perception and life stages (*Amer. J. Psych.*, Apr.). From experimental studies of surgically induced disturbances on the brains of monkeys, M. A. Kennard concludes that the young animals exhibit a great capacity for recapturing muscular control, such as is not possible in adult animals (*Arch. Neur. & Psychiatr.*, Aug.). J. R. Gallaher and others have compared the electrical activity of the brain with the personality characteristics of adolescent boys, and found atypical personalities in those boys with unusual encephalograms (*Psychosomat. Med.*, Apr.).

**Motor Response.**—The mechanisms which occur in conditioning are listed by N. R. F. Maier and T. C. Schnierla as follows: association-formation, motivation, selectivity, transformation of stimulus between contiguous responses; the temporal procedure of stimulation is more important than intrinsic properties of the stimulus (*Psych. Rev.*, March). Muscular tension appears as a component in mental as well as in physical effort; the tension is complexly located in a number of muscles; tension *per se* facilitates volitional action; tension decreases with successive practice periods in the learning of a task, and tension increases with

the onset of frustration (*Psych. Bull.*, June). A. S. Edwards demonstrates an increasing steadiness in posture from the ages of three years to twenty; some individuals sway more with their eyes open than with their eyes closed (*Amer. J. Psych.*, Apr.). E. Jacobson claims that the effect of a daily period of rest without any training in relaxation does not bring the relief from strain that can be accomplished if a person is trained to relax according to the techniques described in Jacobson's several books (*ibid.*).

**Drugs.**—When animals are under the influence of curare, any responses which they make are not remembered or conditioned when the animal returns to the normal state; this is in contrast with the conditioned responses that develop during morphine injections: E. Girden (*J. Exper. Psych.*, Aug.). Sodium bromide exerts but little significant effect on psychological functions, unless it possibly favors a concentration of attention: M. Moore and others (*J. Psych.*, July). A useful summary of methods for investigating the effect of drugs on psychological functions has been compiled by M. G. Gray and E. B. Trowbridge (*Psych. Rec.*, Feb.). M. Moore lists many causes for alcoholism and recommends great use of institutionalization in preference to casual psychotherapy (*Milit. Surg.*, June). H. W. Haggard and E. M. Jellinck, in *Alcohol Explored* (Doubleday, Doran), survey the use of alcoholic beverages throughout the world, and conclude that a special effort should be made to solve the problem of excessive drinking.

SENSATION

**General.**—E. G. Boring, writing on *Sensation and Perception in the History of Experimental Psychology* (Appleton-Century), brings up to date a systematic discussion of these topics. If either the olfactory, visual, or cutaneous senses are destroyed in a male rat which has had no mating experience the occurrence of mating will be reduced or prevented (*J. Comp. Psych.*, Apr.).

**Vision.**—H. Klüver has edited a symposium on *Visual Mechanisms* (Jacques Cattell) which includes contributions by 12 prominent authors. The Dartmouth Eye Institute has published a study of the effects of good and bad vision upon the success of students in college: *Motivation and Visual Factors* (Dartmouth College). "Aneseikonia" looms ever larger as an optical problem, according to R. E. Bannon (*Amer. J. Optom.*, March). Color blindness can be cured by vitamin A dosages of 25,000 units per day, according to K. Dunlap and R. D. Loken (*Science*, June). Vitamin A also cures glare blindness: C. W. Brown and others (*J. Appl. Psych.*, June). Attempting to induce color blindness by hypnosis, P. L. Harriman believes that only the attitudinal state of the subject is changed and not the actual sensory experience (*J. Gen. Psych.*, July). A highly refined color comparison apparatus and carefully measured sensitivities to color differences have been recorded by D. L. MacAdam (*J. Optic. Soc. Amer.*, May). E. E. Emme finds that cattle pay more attention to the sight of a white banner than they do to red, green, or black banners, the latter three receiving equal attention (*J. Psych.*, Apr.).

**Audition.**—L. D. Goodfellow presents rules for re-educating persons with defective hearing; he advises practice in listening to mechanically distorted speech sounds and also the demarcation of the limits of hearing ability so as to develop recognition of all sounds from cues obtained within an individual's limits of hearing; he urges the cultivation of a wholesome, aggressive attitude (*ibid.*, July). Cats can learn to distinguish a C-major chord and will not react to C, E, G components separately or to other major chords: C. N. Winslow and others (*ibid.*, Apr.). E. A. Lipman and J. R. Grassi find that dogs are more sensitive than men to slight sounds, especially to high sounds exceeding by 19 decibels man's acuity at 4,000 cycles (*Amer. J. Psych.*, Jan.). The hearing acuity of young children can be reliably measured

providing the children can be persuaded to pay attention (*J. Speech Disord.*, March). By tying a thread to the stapedius muscle in the middle ear of cats, E. G. Wever and C. W. Bray demonstrate that with increased tension on this muscle, as with the tensor tympani, the transmission of tones, especially low tones, is hindered and thus there is evidence of the adjustive action of these muscles against overstimulation (*J. Exper. Psych.*, July).

**Touch.**—T. Lewis offers a comprehensive medical and psychological book of *Pain* (Macmillan). F. N. Jones and M. H. Jones discuss the qualities of pain and pressure in terms of different intensities of electrical stimulation and conclude that there are not a variety of different qualities (as formerly elicited by a variety of mechanical stimuli), but simply variations of temporal and spatial patterns (*Amer. J. Psych.*, Apr.). A new receptor of cutaneous pressure and vibration sensations has received notice by B. H. Gilmer; it is the glomic unit of the neurovascular system (*Psych. Bull.*, Feb.). When goldfish have learned a maze at 22 degrees C, they relearn the maze best at 4 degrees, next best at 16 degrees, and poorest at 28 degrees, although they are liveliest at 16 degrees: J. W. French (*J. Exper. Psych.*, July). Cold sensitivity is more frequently found in cutaneous spots which are adjacent to sweat ducts than in ductless areas: B. H. Gilmer (*J. Psych.*, Apr.).

**Other Senses.**—Olfactory tests are useful in locating certain kinds of tissue destruction in the brain, according to C. A. Elsberg and H. Spotnitz (*Arch. Neur. & Psychiatr.*, Aug.). E. D. Adrian finds that different odors arouse different patterns of nervous impulse in the olfactory bulb (*J. Physiol.*, Aug.).

#### AFFECTIVE

**Aesthetics.**—I. G. Campbell believes that the following "basic" emotional patterns are expressible in music and are recognized by untrained as well as trained musicians: gayety,



joy, yearning, sorrow, calm, assertion, and tenderness (*Amer. J. Psych.*, Jan.). H. N. Peters reviews the experimental studies of aesthetic judgments and offers the generalization that the affective states of pleasantness and unpleasantness are composed of positive and negative responses which are mainly determined by motivational selection (*Psych. Bull.*, May). The attractiveness of a series of simple tasks, as presented by D. Cartwright, was heightened when the tasks were interrupted, was lowered when the tasks were completed, and was lowered still more when failure occurred (*J. Exper. Psych.*, July).

**Form Appreciation.**—H. J. Eysenck furnishes a new approach to the derivation of a "good gestalt" by applying the critique of aesthetics, such as the influence of "order elements" upon "complexity elements" (*Psych. Rev.*, July). N. G. Hanawalt disputes the gestalt-psychology assertion that mere repetition does not improve the recognition or memory of forms, and demonstrates that observers do recognize simple designs within complex designs after repetition (*J. Exper. Psych.*, Aug.).

**Emotion and Feeling.**—A. Montague presents a helpful book, *How to Find Happiness and Keep It* (Doubleday). W. H. Sheldon and S. S. Stevens, in their book, *The Varieties of Temperament* (Harper), picture three primary components, viscerotonia, somatotonia and cerebrotonia, derived from a scale of 60 traits. P. Schilder has surveyed *Goals and Desires of Man* (Columbia Univ.). Men and women students in a university differ but little from each other in their feeling and emotional attitudes; women are more conservative and vary more widely in standards of morality (*J. Soc. Psych.*, Aug.). A. L. Edwards has devised a standardized "Anxiety Scale" for various realms of human experience (*J. Appl. Psych.*, Apr.). The same author reformulates the old assertion that pleasant memories are remembered longer than unpleasant ones by proposing that consistency and harmony

with the frame of reference are more effective upon memory than the affective state, unless one regards unpleasantness as a disharmony (*Psych. Rev.*, Jan.). Emotions and digestive functions are associated in terms of the increased mucosal circulatory changes in the stomach and duodenum; all cases of gastric tissue destruction were found by B. Mittelman and H. G. Wolff to be accompanied by emotionality; however, in other emotional individuals the secretory changes which were present had not injured health (*Psychomet. Med.*, Jan.).

#### HIGHER MENTAL PROCESSES

**Thought.**—Synthesis, ordinarily assumed to be the arousal of one type of sensory experience by the stimulation of another type of sense organ, has been shown by T. F. Karwoski and others to include a much wider role in everyday thought processes than previously noted; much thinking exhibits an interplay of sensory and imaginal qualities of a synesthetic character (*J. Gen. Psych.*, Apr.). Sustained mental work of a homogeneous character is more fatiguing to persons of normal or superior intelligence than is heterogeneous mental work; the persistence of mental blocks is more effective: M. Newberger (*J. Appl. Psych.*, Feb.). Reasoning ability in children was found to diminish when problems involving the same general principle were presented at increasing levels of abstractness; the children who discovered for themselves the principles were also able to handle a greater degree of abstraction (*J. Psych.*, Jan.). According to H. S. Darlington the common dream of losing one's teeth symbolizes a fear for the safety of relatives or friends (*Psychoanal. Rev.*, Jan.).

**Learning.**—In his book, *The Psychology of Human Learning* (Longmans, Green), J. A. McGeech emphasized practice, age factors, transfer, and the constant alternation of the pattern of response; he asserted that "contiguity and motivation are inseparable." W. F. Bruce and F. S. Freeman trace the individual's growth



in their volume *Development and Learning* (Houghton, Mifflin). In rote learning persons tend to divide the material learned into meaningful sequences so that some thought-context is present: J. F. Dashiell (*Psych. Bull.*, July). Even under conditions of "incidental learning" J. A. Bromer elicited three times better memorization of prose material than of nonsense material; an application to be used in advertising is that "meaning in advertisements should probably never be sacrificed for simple, attention-getting devices" (*Amer. J. Psych.*, Jan.).

**Motor Skill.**—Motor skills remain fairly constant in many individuals despite practice, though some individuals improve in proportion to initial successes in tests of skill; from this discrepancy W. A. Owens concludes that specialization in terms of predicted aptitude should be sought (*J. Educ. Psych.*, Feb.). K. L. Wentworth tested the "handedness" in rats in terms of their reaches with a forepaw for food; by forcing the rat to use the other forepaw a shift of handedness could be established (*Genet. Psych., Monog.*, Aug.). W. J. Brogden allowed certain dogs to be present while other dogs were conditioned to raise their forepaw; then the first dogs were similarly conditioned so as to see if they profited by imitation, but they did not benefit, because they required as much training as the other dogs (*Amer. J. Psych.*, Jan.).

#### EDUCATIONAL

**Teaching.**—C. R. Griffiths declares that students of education should study human nature as a prerequisite to all other subject-matter courses (*J. Higher Educ.*, Apr.). A. I. Gates, A. T. Jersild, T. R. McConnell, and R. C. Chalman have collaborated on an important *Educational Psychology* (Macmillan). *The Psychology of Individual Education* (Columbia Univ.), by L. B. Murphy and others, emphasizes the importance of motivation and specialization. E. W. Burgess, W. L. Warner, F. Alexander, and M. Mead have published a symposium

on *Environment and Education* (Univ. of Chicago). In teaching learned material C. R. Pace emphasizes the influence of motivation and the experiences resulting from performance as the most important aids (*Psych. Bull.*, May). Reading disability in school children can largely be prevented, says G. Hildreth, by preparing the child to make the transition from no-reading to reading through adequate language and experiential maturity for dealing with abstract symbols (*J. Consult. Psych.*, July).

**Intelligence.**—Q. McNemar offers a critique of *The Revision of the Stanford-Binet Scale* (Houghton, Mifflin). A. Roe and D. Shakow report their investigation of "Intelligence in Mental Disorder" (*Ann. N. Y. Acad. Sci.*). R. L. Thorndike and G. H. Gallup surveyed the verbal intellectual ability of the American population and find a median mental age of 16 years, 4 months; there was little age, sex, or regional difference, but there was a sharp economic level difference, e.g., only 10 per cent of the "under \$20" group equalled the median of the "over \$40" group (*Psych. Bull.*, July). W. McGehee and W. D. Lewis reaffirm the general finding that children of superior intelligence come from a higher socio-economic level of homes; on the other hand, retarded children come from all types of homes, thus an unqualified prediction of intelligence based on the type of home is unwarranted (*J. Genet. Psych.*, June). Intelligence and social quotients sometimes differ significantly from each other in problem children, according to L. A. Lurie and others, the conclusion being that anomalies of the nervous system may cause deviations in actual behavior from the capacities which are prognosticated by the tests employed (*Amer. J. Orthopsychiatr.*, Jan.). C. Pototsky and A. E. Grigg are convinced that Mongolian imbeciles are able to develop a much higher mental and social capacity than has hitherto been expected (*ibid.*, July). The intelligence of Negroes varies more within the colored population and it

differs from the white population which indicates the influence of social environment more than of native endowment (*J. Educ. Psych.*, March).

## CHILDREN

**Surveys.**—A new periodical, the *Journal of Exceptional Children* has appeared under the editorship of E. A. Doll. E. Hurlock has published a *Child Psychology* (McGraw-Hill). L. S. Hollingworth's case studies of *Children Above 180 I. Q.* (World Book) reveal the discretions needed in dealing with exceptional children. L. Cole's *Psychology of Adolescence* (Farrar & Rinehart) has been revised.

**Guidance.**—M. Mead elucidates a number of ways in which parents can help the inquiring child to grow up; instructive observations are derived from examples of the way in which primitive tribes instruct their children (*Parents' Mag.*, July). A. V. Keliher defends the general effect of movies upon children and claims that a box office control by alert parents will regulate the value of this form of entertainment (*Child Study*, Spring). Interest by school children in comic magazines is greatest in the fourth to the eighth grades; the interest is uniform among all the children; guidance of such interest depends upon competing attractions such as P. Witty's list of books (*J. Educ. Psych.*, Mar.). The most influential extrinsic factor in childhood anxiety states is that of an ambivalent attitude by the parents; this is worse than parental rejection, according to J. Kasanin and others (*Amer. J. Orthopsychiatr.*, July). M. M. Shirley has noted that in adjusting to strange situations children are apt to reflect the attitudes of security and confidence inspired by their parents' attitudes (*J. Abn. & Soc. Psych.*, Apr.).

## SOCIAL

**Texts.**—M. H. Krout's *Introduction to Social Psychology* (Harper), presents good ethnological descriptions of group followership, leadership, and conflict. H. D. Carter gives an overview of the current field of

social psychology (*J. Psych.*, Jan.). There is a new edition of R. T. LaPiere and P. R. Farnsworth's *Social Psychology* (McGraw-Hill).

**Groups.**—R. L. Sutherland reports on the American Council on Education study of *Color, Class and Personality* (Amer. Counc. Educ.) concerning the Negro's adjustments in white communities. Northerners in the United States are more extraverted than southerners: L. C. Lindsley and H. K. Mull (*Amer. J. Psych.*, Jan.).

**Crime.**—D. R. Tafts stresses causes in his *Criminology* (Macmillan). C. V. Charles maintains that much criminality represents a form of social remonstrance by the underprivileged (*Psychoanal. Rev.*, July). There are many neurotic and immature personalities among criminals: M. Metfessel and C. Lovell (*Psych. Bull.*, March). B. Karpman urges a widening concept of insanity and criminality; at present psychiatry and law agree on a narrow definition of insanity including delusions and hallucinations, but insanity should include alcoholism, sex variants, etc. which should be treated psychiatrically (*J. Crim. Psychopath.*, July).

**Opinion.**—D. Katz examines the readiness of people to adopt broad programs of post-war reorganization and to control their fears and resentments (*Psych. Bull.*, July). Changes in opinion depend upon the amount of difference between one's opinions and the type of propaganda employed; change may be negative if the difference is small; little change occurs if the person's bias and the propagandist's intent are opposite (*J. Soc. Psych.*, Aug.). F. L. Ruch and K. Young have investigated the degree of penetration of Axis propaganda in America (*J. Appl. Psych.*, Aug.).

**Adjustment.**—J. M. Hunt and R. L. Soloman measured the social "group-stability" of boys in a summer camp in terms of personal choices of friends; the choices were based on judgments of athletic ability, generosity, physical attractiveness, orderliness of activity, lack of egocentricity;

after a time some factors, such as athletic ability, became less important than personal qualities (*Amer. J. Psych.*, Jan.). In an exploratory study of social guidance at the college level M. G. Aldrich concludes from tests that a year's course in social guidance has an effect on social behavior but not on social preferences (*Educ. & Psych. Meas.*, Apr.). In a study of mutual friendships among school children M. E. Bonney found that intellectual brightness was associated with an ability to win friends, but not a guarantee of social competence; the only child had a superior social success; girls are better adjusted socially than boys (*Child Dev.*, June). The American Youth Commission, studying the increase in juvenile delinquency, reports G. Johnson's plea for developing community centers, especially in churches for the cultivation of spiritual values (*Educ. Rec.*, Apr.).

**Recreation.**—Recreation is a valuable—but only a complementary—adjunct to other therapeutic measures in treating mental disorders: J. E. Davis (*Ment. Hyg.*, Jan.). J. O. Cavanaugh tests the relation of recreational activities and social adjustment, and indicates a moderate degree of correlation between them (*J. Soc. Psych.*, Feb.). A case work approach to therapeutical recreation indicates, according to G. E. Levinrew, that clinical workers should realize the value of group recreation (*Amer. J. Orthopsychiatr.*, Apr.).

#### APPLIED

**Practical Books.**—A. T. Poffenberger's *Principles of Applied Psychology* (Appleton-Century) is a thorough revision with additional chapters on marketing and law.

**Industry.**—H. Meltzer urges that a cultivation of "humanizing relations" should be developed toward the leaders of industry; these leaders have the common human susceptibilities to anxiety, frustration, etc., and allowance should be made for a range of adjustment among the highest officials and thus reduce a certain degree of confusion due to inconsistencies resulting from arbitrary management (*Amer. J. Orthopsychiatr.*, July). In a follow-up on vocational guidance, E. C. Webster finds that 50 per cent of the applicants acted upon the recommendations and were satisfied; 15 per cent pursued other jobs and failed; 1 per cent acted on the advice and failed (*J. Appl. Psych.*, June). J. Tiffin's *Industrial Psychology* (Prentice-Hall) includes timely chapters on the merit-rating system, morale, mechanical comprehension tests, and training methods. Certain industries enclose morale-building slogans in the pay envelopes (*Amer. Bus.*, Aug.).

**Traffic.**—H. R. DeSilva includes in his book, *Why We Have Automobile Accidents* (Wiley), chapters on national and state safety programs, faults of present-day safety programs, social and economic factors, physical and psychological factors. M. Halsey also has a psychological chapter on "fitting engineering to the driver" in his book on *Traffic* (Wiley). Testing the influence of alcohol in 13 different driving situations, N. Newman and others find that 150 mg. per 100 cc of blood affects all drivers to a demonstrable degree (*Quart. J. Study Alc.*, June). Because of immaturity of judgment in youths, L. S. Selling recommends a minimum driver age of 18 years (*Amer. J. Orthopsychiatr.*, Apr.).

# PHILOSOPHY

## PHILOSOPHY

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### GENERAL

A consideration of the activities in Philosophy for the year 1942 indicates a definite emphasis on the problems of social and political philosophy. Interest was centered both on the analysis of the issues necessary for reconstruction and on the ideological background of totalitarian philosophy. For some time interest has been growing in continental religious movements; the evidence this year showed that American philosophy has taken up this departure as an integral part of itself, not in an imitative way but as a point of departure for creative thinking. An example of this is M. Channing-Pearce's *The Terrible Crystal* (N. Y. Oxford U. Press), which is a study in Kierkegaard and Modern Christianity. Mr. Channing-Pearce sees in Kierkegaard the prophet of the rebirth of vital Christianity. Stephen Lee Ely's *The Religious Availability of Whitehead's God* (Univ. of Wisconsin Press) is another book in the philosophy of religion; it is concerned with the adequacy of the concept of God as delineated by Whitehead and his solution to the problem of evil.

One of the outstanding books of the year is a *Festschrift* published by the University of Pennsylvania Press. *Philosophical Essays in Honor of Edgar Arthur Singer* is a series of 21 papers by Professor Singer's colleagues and students that reflect the methodology and general philosophical orientation of Empirical Idealism.

### INTRODUCTORY AND OTHER TEXT BOOKS

Several excellent introductory texts were written, the one by John Herman Randall and Justus Buchler (Barnes and Noble) belongs to the college outline series. While necessarily cursory it is a valuable elementary handbook and is well docu-

mented with references to the standard texts in the field. *Man's Way, A First Book in Philosophy* (Longman's Green) by Henry Van Sandt Cobb is another introductory text, an analysis of the methods of thinking and problem solving. Along the same line is *The Organization of Knowledge* (Prentice Hall) by Glenn Negley, an introduction to philosophical analysis. Suzanne K. Langer's *Philosophy in a New Key* (Harvard Univ. Press) discusses the recent changes in the problems of philosophy that have developed in science, myth, metaphor, and art.

*The Destiny of Western Man* (Reynal and Hitchcock) by W. T. Stace formulates the moral criteria in terms of which democracy may be compared with totalitarianism. The former is morally superior since (it is shown) it is more in accord with the nature of man viewed as the supremacy of reason and sympathy.

Four men have collaborated in writing *History of Philosophy* (Univ. of Penn. Press). Martin wrote the pre-Socratic and Gordon Clark the sections on Plato and Aristotle. Francis Palmer Clarke is responsible for the Medieval Philosophy; it is carefully done, with careful and copious reference to original sources chosen to illustrate persistent problems. The treatment of Modern Philosophy is by Chester Ruddick; he stresses the continuity of philosophical thought and the necessary connection of one trend to another. The book is not just another textbook but is a valuable contribution to philosophic tradition. It is written more for the mature student than for the beginner.

### MEETINGS

The original plans for the Eastern Division of the American Philosophical Association were for a Pan-American session; the war made this im-



possible, but a section of the papers at Yale University is to be devoted to Latin American Philosophy. Francisco Romero is to read a paper on "Contemporary Tendencies in Hispano-American Thought," showing the influence of Scholasticism and Positivism and the present significance of the classical German thinkers. In turn Edgar Brightman is reading a paper on Francisco Romero's system, called "Empirical Personalism." Edward Garcia Haynes is reading a third paper on "Liberty as Right and Liberty as Power." The *Journal of Philosophy* also reflects this interest in Latin America. They have printed reviews of such books (published several years ago but heretofore unnoticed) as *Filosofia de la historia*; Immanuel Kant, *Prologdy T. de Eulgenio Imaz*; *Filosofia de las ciencias*; *Teoria de la relatividad* by David Garcia Bacca; and *Nuevos prolegomenos a la metafisica* by Angel Vassallo. At this same session symposiums are proposed on "Can Speculative Philosophy be Defended" and on the "Tercenary of the Death of Galileo and the Birth of Newton."

The Southern Society for Philosophy and Psychology met in April at Nashville. The papers were varied in subject matter but in general were relevant to the contemporary scene. L. J. Eslick read a paper on "The Intelligibility of Matter"; Iredell Jenkins on "The Postulate of an Impoverished Reality"; and H. J. Duerr on "The Nature of Substance." Several interesting papers are to be read also at the eighth annual meeting of the American Catholic Philosophical Association. The theme of the conference, to be held at Notre Dame, is "Truth in the Contemporary Crisis". Professor Raymond McCall's paper on "Truth and Propaganda" promises to be timely.

Other philosophical events of importance include: the symposium on William James at Scripps College; this celebrates the hundredth anniversary of his birth; the Second Annual Conference of the Philosophy of Education Society at Columbus, O. on "Contemporary Conceptions of

Reason and their Relation to Educational Theory"; and the Second American Congress for Aesthetics.

### PHILOSOPHY OF SCIENCE

Discussions on the problem of semantics, and the problem of the relation between the biological sciences and the physical sciences still continue to fill the chief organ of this subject. Just whether any progress can be reported for either of these problems in the articles of the *Philosophy of Science* is difficult to say. It seems unfortunate that so little attention is paid to the problems that are very pressing for the experimental scientists; in particular, the problem of the application of statistical methods to experimental data is one that demands a great deal of attention on the part of modern philosophers. So far, the problem has been considered for the most part only by statisticians (see, for example, A. Wald's *On the Principles of Statistical Inference*, Notre Dame Math. Lectures, 1942). The problem evidently demands the attention of minds trained to view all such problems *sub specie aeternitatis*, since the statistician is usually interested in some particular field of application or is prone to base his analysis on a naive empiricism. Formal studies of the nature of statistical and probability theory are very useful in this respect, and an example is to be found in A. H. Copeland's *Postulates for the Theory of Probability*.

A new text in this field is A. C. Rampsberger's *Philosophies of Science* (Crofts, 1942) which gives clear surveys of various basic points of view on the philosophy of science. Hans Reichenbach, in *From Copernicus to Einstein*, has made a survey of the history of the ideas and discoveries in science leading up to the theory of relativity.

### SYMBOLIC LOGIC

An excellent survey of the very important work of H. B. Curry into the fundamental procedures of formal systems is given in his article, "The Combinatory Foundations of Mathematical Logic" (*Journal of Symbolic*

*Logic*, vol. 7, pp. 4 ff.). Along similar lines, F. B. Fitch has written on "A Basic Logic" (*ibid*, pp. 105 ff.), with the end of finding a logic that is "basic," where a "basic" logic is one such that every system of logic is definable in it. His conclusions, needless to say, are relative (at least) to the definition of "definable" and to the definition of "logic," but the conclusions should be of considerable value and open up paths for future research.

With reference to the mathematical character of logical systems, there is P. C. Rosenbloom's "Post Algebras" (*American Journal of Mathematics*, vol. 64, p. 167 ff.). His treatment opens up new ways of considering logical systems, and the generality of the Post Algebras enables one to understand better the character of such simple and "degenerate" systems as the two-valued logic and the Boolean Algebra.

Mention should be made of the very lucid and thorough-going treatment of certain modern logical concepts that appear in the *Dictionary of Philosophy*. The definition of certain concepts of symbolic logic to be found there ought to provide a clearer understanding of some of the modern work in this very important field.

#### AESTHETICS

One of the significant groups that are meeting in the interests of philosophy is the Congress for Aesthetics. Its second meeting was in Washington and its third meeting in New York in December, 1942. The complete papers of the later meeting is to be printed in the *Journal of Aesthetics and Art Criticism*; they cover the theoretical and speculative aspects of art as well as the concrete treatment of art problems.

Many first-rate articles on aesthetics are appearing in the journals. In the *Journal of Philosophy* (24) there is a survey of "Recent Catholic Views on Art and Poetry" by Katherine Gilbert, and "Some Aspects of the Play Theory of Art" by Milton Nahm (No. 6). Charles Hart discusses the relationship of aesthetics

in "The Place of Aesthetics in Philosophy" (*Journal of Aesthetics and Art Criticism*, No. 6). The same journal (5) published two critical essays on the "Growth and Structure of Croce's Philosophy" by Edward Rodite and "The Aesthetics of Thomas Reid" by David Robbins.

#### SOCIAL PHILOSOPHY AND ETHICS

Activity in this field was greater than in any other during the year, as might be expected. Within the field itself are the two dominant trends, the one on social analysis and the second on jurisprudence. Bede Jarrett's (O. P.) *Social Theories of the Middle Ages* (Westminster, Md.: The Newman Book Shop) has been republished and is hence somewhat more accessible; it is an excellent survey of the way in which the medieval moralists handle their social problems. R. M. MacIver's *Social Causation* (Ginn) is, as the title indicates, an analysis of causality as a universal and primary category. He holds that social causation differs from physical causation and demands a unique method; causation may be seen best in the teleological and irreversible social activities. Laurence Sear's article in the *Journal of Philosophy* (No. 15) on the "Meanings of History" views the meaning of history from the naturalistic and teleological standpoints, and proposes as the task of the philosophers of history the acceptance of the responsibility for values and of education.

One of the outstanding contributions to jurisprudence is *Social Control Through Law* by the famous scholar, Roscoe Pound. He discusses law as an instrument of social control whose function is the development of civilization. It is a brilliant treatment of the values and vectors in law. Pound has written an introduction to another book in the same field, the *Sociology of Law* (Alliance Book Co.) by George Gurvitch. Under the Julius Rosenthal Foundation a statement of 16 important scholars in jurisprudence has been collected entitled *My Philosophy of Law* (Bos-

ton Law Book Co.). Though not organized *inter alia*, they are significant contributions to the field. Two other books are *The Mysterious Sciences of Law* (Harvard Univ. Press) by Daniel Boorstein and the *Quest for Law* (Knopf) by William Seagle.

An unusual, but understandable interest has been shown in German Philosophers and German tradition. Frederick de Wolf Bolman has translated *The Ages of the World* (Columbia Univ. Press). This is a welcome addition to the translations of the later works of Schilling. Two other books, not translations but interpretations that preserve the mood of the sources have been published. George A. Moran's *What Nietzsche Means* (Harvard) and Eckhard J. Koehle's *Personality* (Columbia Univ. Press). The latter is a study according to the Philosophies of Value and Spirit of Max Scheler and Nicolai Hartman. The ideas of

Spengler, Mann Keperling, and Stephan George are considered by Richard Kuehnemund in his article "German Prophets of Doom and Hope" (*Journal of the History of Ideas*, Vol. III No. 4). He points out that each of these men, taken separately, represents a one-sided view, but considered together they can exert a constructive influence on the German future.

Interest also has been directed toward the antecedents of the political philosophy of our enemies. Clarence Yarrow examines the development of Fascist Doctrines from a time shortly after the First World War to the present in the "Forging of Fascist Doctrine" (*Journal of the History of Ideas*, Vol. III, No. 2). On the other hand, Rohan D'Oliver Butth's *The Roots of National Socialism* (Dutton) treats historically some of the elements of German totalitarianism beginning with Herder and the Pietists.

## ANTHROPOLOGY AND ETHNOLOGY

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### ANTHROPOLOGISTS IN THE WAR EFFORT

The first year of war saw widespread utilization of the knowledge and skills of anthropologists in furthering the emergency effort. Certainly 80 per cent of anthropologists were engaged in one way or another in the essential services, and government bureaus employ increasing numbers in a full-time or advisory capacity.

### ETHNOGEOGRAPHIC BOARD

Perhaps more than any other science, anthropology engenders intimate familiarity with the human and natural resources of world areas. Field workers in many of the sciences possess unusually specific regional information and evaluated personnel data necessary to war and post-war problems. In order to coordinate this material and make it readily accessible the Ethnogeographic Board was es-

tablished under the directorship of William Duncan Strong, formerly Professor of Anthropology at Columbia University. The Board, with headquarters in the Smithsonian Institution Building, Washington, D. C., is an extra-governmental agency created and sponsored by the National Research Council, the American Council of Learned Societies, the Social Science Research Council and the Smithsonian Institution. Its function is to act as a useful clearing house between these institutions, their affiliated scientific and educational organizations, and the civil, military and war agencies within the Government.

### COMMUNITY STUDIES

Likewise under the stimulus of emergency demands, anthropological techniques were applied on a larger scale to community studies within the



borders of the United States. One such project involved the War Relocation Center for Japanese at Poston, Ariz. with Alexander Leighton as director of sociological research. The Division of Farm Population and Rural Welfare, United States Department of Agriculture, completed field work on a series of community studies combining the viewpoints of anthropology, social psychology, and rural sociology. The project was planned and directed by Carl C. Taylor, Kimball Young, Charles P. Loomis and John Provinse. Lloyd Warner cooperated with the Committee on Human Development of the University of Chicago in a community study of Morris, Ill. H. Scudder McKeel, University of Wisconsin, initiated a study of a community in a defense plant area in an attempt to ascertain the impact of a more or less urban population on a rural village; two investigators spent three months in the village, which is in the Badger Ordnance Works area, as a preliminary to the study.

Community studies designed primarily to assist in problems relating to food habits and nutrition in the United States were of special importance as indications of the recurring value of the anthropological informant-interviewer technique. The Committee of Food Habits of the National Research Council (Carl E. Guthe, chairman; Margaret Mead, executive secretary), which is advisory to the nutrition Division of the Office of Defense Health and Welfare Services under a contract with the Federal Security Agency, recognized the importance of the details of cultural background and developed a series of memoranda on foreign background groups. Undergraduate classes in various colleges and universities cooperated in obtaining information through interviews, and this is incorporated in a running series of studies by Natalie Joffee and collaborators. Tests for the determination of cultural anchorage of food habits was also developed. The University of Chicago carried out a cooperative study with the Office of Indian Affairs

on food and nutrition among Indian and Spanish-American villages in the Southwest. Fred Eggan was coordinator of the study with Michel Pijoan of the Indian Medical Service as specialist in nutrition; the field work was done by Morris Siegel, A. Goubaud, James Watson, and Emma Rey.

## ADMINISTRATION

Problems of the post-war world were recognized by an increased interest in administration. Unlike much English anthropology, the American branch of the science has been relatively loosely tied with practical administration. The present shift toward such a tie stems not from political or imperialistic matters but directly from an extension of ethnological studies to more complex societies and from application of knowledge of processes derived from acculturation studies. Anthropologists contributed to the teaching of special courses being given at Columbia University to Naval Officers in preparation for administrative work. Data on Latin American contemporary communities accumulated rapidly, as discussed in detail below, and Charles Wagley, on leave from Columbia University, cooperated with the Brazilian Government in applying such knowledge for increased rubber production. Jack Harris, formerly of Ohio State University, actively engaged in administrative work in Nigeria, West Africa.

The centenary celebration of the American Ethnological Society was devoted to acculturation or culture-contact oriented toward administration in three areas: Latin America, North America, and Oceania. Ralph Linton of Columbia University inaugurated a research project on Chinese rural life and culture to accumulate data which may be of practical value for Chinese reconstruction. The Cross-Cultural Survey under the direction of George P. Murdock, Yale University, concentrated its attention during the year exclusively on the Pacific area, especially on Japan, the Japanese Mandated Territories, and the Melanesian islands occupied by



the Japanese. Marian W. Smith, Columbia University, worked with a group of students gathering data on the Punjab, India, from Sikh informants resident in New York City.

#### RACE RELATIONS

The political misuse of racial distinctions continued to command the attention of American anthropologists many of whom undertook extensive popular lecture and writing programs to combat race prejudice. The American Association of Physical Anthropologists formed a Committee on Race Relations to combat prejudice by the dissemination of scientific information. The American Ethnological Society at its centenary meeting passed a resolution calling attention to the fact that there is no scientific basis for claims of racial superiority or inferiority. Particular studies were concerned principally with the Negro and Jew and, increasingly, with race attitudes in the Pacific area. Among general treatments of race were the published account by Ashley Montague and Melville Jacobs' completed manuscript, "Race: an Historical Interpretation." Other studies dealing with racial minority groups such as those of the Utah State Committee on Minority Group Cooperation for National Defense were assisted by anthropologists and merge into the community studies mentioned above.

#### SOCIAL FACTORS

W. W. Howells of the University of Wisconsin continued research on physical variations for inheritance within family groups and for connections with a number of social factors. W. M. Krogman, University of Chicago, worked on a text in physical anthropology and, in conjunction with R. W. Snodgrasse, on a handbook of the physical measurement of the growing child. Franz Boas' studies of growth were interrupted by his death. Dr. Moviuss completed his comprehensive monograph on early man in southern and eastern Asia and the entire question of early man, especially as connected with Folsom-

Yuma artifacts, continued to occupy the interest of archaeologists. Attempts at dating such finds in the New World by accurate geological investigations gained in significance.

#### CULTURE AND PERSONALITY

The tie between psychology and anthropology as represented in the field of culture and personality continued. A. Irving Hallowell of the University of Pennsylvania worked on the results obtained by administering Rorschachs to 151 Berens River Saulteaux. This material furnishes data not only on the Saulteaux but sheds light on the value of this technique in the study of personality and culture. Training in the use of the Rorschach is available to anthropological students in some places, and seminars in personality and culture increased during the year.

The use of psychological tests has been widely adopted by the Office of Indian Affairs of the United States and the Committee on Human Development of the University of Chicago in a joint project for the study of Indian personality under the sponsorship of the National Indian Institute of the United States. Anthropologists, sociologists, educators and psychologists cooperated in a "pilot" study made on the Papago Reservation from February to May. The method developed is now being applied by Indian Service personnel in 12 communities on five reservations: Papago, Hopi, Navaho, United Pueblos, and Pine Ridge. Anthropologists are furnishing background studies of the communities with special emphasis on the organization of authority. The committees directing the research include John Collier, Lloyd Warner, Willard Beatty, Joseph McCaskill, Rene d'Harnoncourt, Robert Havighurst, and Ralph Tylor, with Laura Thompson, coordinator. The Office of Indian Affairs also engaged in a study of the economic and social adjustments of students returning to reservations from off-reservation boarding schools, and Gordon Macgregor, in collaboration with John Useem and the University of South Dakota,

made a survey of the employment of Sioux in wartime industries and agriculture. Wayne Dennis of the University of Louisiana Department of Psychology continued his studies of child development among the Hopi. David G. Mandelbaum of the University of Minnesota spent the academic year at the University of California and Stanford University studying phases of psychology especially related to anthropological interests and pursuits. John M. Scott finished a report under the direction of M. K. Opler, Reed College, and Dr. John Haskins on the cultural factors in psycho-neuroses of Alaskan natives at the Morningside Hospital, Portland, Ore.

## ETHNOLOGICAL FIELD WORK IN LATIN AMERICA

Ethnological field work during the year was of necessity limited to the Western Hemisphere. Latin America received considerable attention. Mr. and Mrs. Harry Tschopik, Jr. spent the third year in their study of Chucuito, an Aymara village in the southern highlands of Peru; in 1942, detailed maps of land holdings and house arrangements were completed and a number of autobiographies in Aymara text were recorded; this unusually thorough ethnology is under the auspices of the Peabody Museum, Harvard University. Early in the year, Harry B. Hawthorn and Mrs. Alice Blythe Child of Yale University completed community studies in Sucre, Bolivia, and in the highlands of Costa Rica respectively. Allan R. Holmberg, also of Yale, was called from ethnological work among the Siriono Indians of southeastern Bolivia by government service. Melville Herskovits led a Northwestern University Expedition under grant from the Rockefeller Foundation to Brazil for the purpose of studying Africanisms in Brazilian negro communities.

The Carnegie Institution of Washington continued its program of ethnological investigations in Latin America under the direction of Robert Redfield of the University of Chicago. Sol Tax completed his report

on the technology and economy of the Cakchiquel Indians of Guatemala and taught one semester in the Escuela Nacional de Antropología e Historia, Mexico, taking a group of students to work among the Tzendal Indians of Chiapas. Alfonso Villa Rojas began an extended field season in Tzeltal communities in eastern Chiapas. Juan Rosales of San Pedro do la Laguna, Guatemala, spent the year at the University of Chicago writing up the culture of his village.

John Gillin of Duke University was appointed Research Associate of the Carnegie Institution and under the joint auspices of the two agencies studied Pokoman communities in eastern Guatemala and the village of Guazacpan where he found Pipil communities still flourishing. Melvin M. Tumin, a fellow of the Social Science Research Council, continued the study of the Pokoman in San Luis Jilotepeque. Mrs. Rachel Reese Sady went over Mexican government records with reference to their value for anthropologists; her report is at the University of Chicago.

The Bureau of American Ethnology, Smithsonian Institution, went forward with the work on the *Handbook of South American Indians*: Julian H. Steward, editor, visited certain countries of South America to discuss details with anthropologists there and to consider plans for the organization of several cultural centers. The book already totals some 600,000 words from 90 contributors of both continents of the hemisphere. Alice Galligan, Hunter College, collated material from the Amazon-Orinoco drainage on village form and social organization. John M. Cooper, Catholic University of America, continued his analyses of South American culture with the publication of papers dealing with areal and temporal aspects of the aboriginal cultures and with marginal cultures in particular. W. K. Wilbur of the University Museum, Philadelphia, continued his studies of pre-Columbian Mexican material culture as shown in the codices, under grant from the American Philosophical Society.

## XXIV. PHILOSOPHICAL AND SOCIAL SCIENCES

Jesús Guérrero Galván was Latin American Artist in Residence at the School of Inter-American Affairs, University of New Mexico, from June to December under a grant from the Coordinator of Inter-American Affairs. The School of Inter-American Affairs likewise proceeded with its policy of offering scholarships to qualified Latin American students. Charles E. Dibble of the Anthropological Museum of the University of Utah spent the year at the Universidad Nacional de Mexico as Roosevelt Fellow.

### FIELD WORK IN NORTH AMERICA

Field trips in North America were more restricted than in former years. Ethnological investigations among the Ojibwa of northern Wisconsin were continued under the cooperative sponsorship of Columbia University and the Milwaukee Public Museum: the work is being directed by Ralph Linton and W. C. McKern and the 1942 field trip of three and a half months was conducted by Robert Ritzenthaler, in charge, and Ernestine Friedl. The University of Wisconsin completed field work for its acculturation study of the Oneida Indian community near Green Bay, Wis. This project also included the gathering of linguistic materials. Hector H. Lee of the University of Utah worked during the summer among the Blackfoot Indians near Glacier National Park. H. G. Barnett, University of Oregon, made a study of the contemporary life of the Yakima Indians of Washington under the auspices of the Northwest Regional Council. Leslie A. White, University of Michigan, completed some research upon the cultivation of tobacco in the Southwest (*Science*, July, 1942).

Clyde Kluckhohn of Harvard University spent two short periods in the field in connection with his longitudinal study of the Ramah Navaho and the socialization process as it appears in this Indian community; in addition to persons who previously cooperated on the project, John Landgraf acted as research assistant for part of the year aiding in analysis of

the material already gathered. Gladys A. Reichard of Barnard College continued work on her long-time project concerning the religion of the Navaho Indians; the work has already yielded published material on weaving and sand-painting, and she has gained a command of the language in order adequately to understand the religious ideas. Frank G. Speck supervised a group of students of the University of Pennsylvania in a study embracing the ethno-ecology of tribal communities in Virginia.

### ARCHAEOLOGICAL FIELD WORK IN NORTH AMERICA

Archaeological field work in North America also decreased in 1942, as compared to immediately preceding years, due to the termination of the widespread archaeological projects undertaken in the United States under the partial or complete sponsorship of the Federal Works Projects Administration. Private individuals and institutions, however, continued their archaeological labors. Froelich Rainey of the American Museum of Natural History spent the summer searching for artifacts along the Alaska highway. Lloyd A. Wilford of the University of Minnesota continued excavations in southeastern Minnesota. F. H. H. Roberts, Jr. of the Bureau of American Ethnology visited a site in Wyoming showing association of extinct animals and artifacts. M. R. Harrington, Southwest Museum, directed excavations in southwestern Nevada and at Clear Lake and Borax Lake, both in California, the latter carried on under a grant-in-aid from the University Museum, Philadelphia.

The University of Arizona completed excavation of the stratigraphic layers of Ventana Cave. Caves of Wendover, Utah, also yielded material for study by the University of Utah. Dr. Brew of the Peabody Museum, Harvard University, continued study of the results of the five years' work at Awatovi, Arizona; reproductions have been made under the supervision of Watson Smith of the 200 kiva wall paintings and some 2,000 tree-ring specimens have been dated by E. T.



Hall, Jr.; the physiographic and geological studies have already been published by John T. Hack.

John B. Corning of the University Museum, Philadelphia, did some digging in Okefenokee Swamp on the borders of Georgia and Florida. Fay-Cooper Cole is writing the report of the extensive work done by the University of Chicago at the Kincaid site in southern Illinois. Ethel Boissevain of Hunter College examined sites on Cape Cod, and Alexis Prauss led a Yale University party which excavated a site in Branford, Conn. Frederick Johnson, Phillips Academy, continued his study of prehistoric sites and their relation to sea level along the Massachusetts coast, making excavations on Grassy Island in the Taunton River. The Rochester Academy of Science likewise carried on a project in the Eastern Woodlands area, and E. F. Greenman, University of Michigan, spent his fifth field season at an early site on Lake Huron, Killarney, Ontario.

## ARCHAEOLOGICAL FIELD WORK IN LATIN AMERICA

Archaeological work in Latin America continued unabated. The Bureau of American Ethnology, in cooperation with the National Geographic Society, continued its study of southern Mexico under M. W. Stirling; Philip Drucker completed the work at La Venta, Tabasco, under the joint auspices of the Smithsonian Institution and the National Geographic Society. The Carnegie Institution of Washington undertook an unusually large number of excavations under the direction of A. V. Kidder: in Yucatan, S. G. Morley cleared the facade of a buried temple at Uxmal, and G. W. Brainerd and E. W. Andrews worked at Mayapan, Acanceh, and other ruins in the northern part of the peninsula; A. L. Smith and E. M. Shook continued work at the large Guatemalan site of Kaminaljuyu; G. Strömsvik carried into the eighth year the program of excavation and preservation of ruins of Copan, sponsored jointly by the Government of Honduras and the Carne-

gie Institution; in Nicaragua, F. B. Richardson and Karl Ruppert continued the investigation at El Cauce, near Managua, where in 1941 human footprints were discovered in a deeply buried layer of consolidated volcanic mud; and S. H. Boggs began a photographic record of the private collections of archaeological specimens in El Salvador.

## ANTHROPOLOGICAL RESEARCH

The Institute of Andean Research, working under the auspices of the Office of the Coordinator of Inter-American Affairs, continued important anthropological research in a program of scientific and cultural cooperation between the American republics. The work was mainly archaeological and is well under way toward completion. The write-up is being pushed forward and reports on several projects are already in press. Project 1, in northeastern Mexico, was under the direction of George C. Vaillant, with Gordon Ekholm as supervisor; Project 2, in western Mexico, included A. L. Kroeber as director, Carl Sauer as co-director, and Isabel Kelly as supervisor; William Duncan Strong served as director of Projects 3 and 4, the former in coastal Peru with Gordon Willey as supervisor, and the latter in coastal Chile supervised by Junius Bird; Project 5, covering Venezuela and the West Indies, was under the direction of Cornelius Osgood with Irving Rouse as associate director, Dr. Garcia-Robiou supervisor for Cuba, and George Howard supervisor for Venezuela; Project 6, in Colombia, was directed by Wendell Bennett with James A. Ford as supervisor; and Project 7, was set in the Peruvian highlands adjacent to Lake Titicaca and Bolivia, with Alfred Kidder II as director, John Rowe as supervisor, and Mrs. Harry Tschopik, Jr. as assistant supervisor. Project 8, under the directorship of S. K. Lothrop, assisted by Counsellor Julio Tello, and with Marshall Newman as supervisor, was mainly concerned with the presentation of data previously collected during Dr. Tello's excavations at Paracas; Dr. Newman was



engaged particularly in the physical anthropology of the Paracas cultures and of the human materials secured in coastal Peru by Project 3 workers. Project 9A centered in the north central highlands of Peru with A. L. Kroeber as director and Theodore McCown as supervisor; Project 9B dealt with Ecuador under the directorship of Fay-Cooper Cole, with Donald Collier as supervisor and J. V. Murra as assistant supervisor; and Project 10, in San Salvador, was directed by A. V. Kidder and supervised by John Longyear.

### LINGUISTIC STUDIES

Linguistic work undertaken in connection with comprehensive ethnologic studies has already been mentioned for Aymara, Oneida, and Navaho. Considerable attention has recently been devoted to this last group, including not only the work of Dr. Reichard cited above but also the appearance of Sapir's *Navaho Texts* edited by Harry Hoijer and a set of papers in the *American Anthropologist* (Vol. 44, No. 3, pp. 407-424). A comprehensive linguistic map of North America was undertaken by Carl F. Voegelin. The map, which will be sufficiently large for class room purposes, will be published jointly by Indiana University and the American Ethnological Society. John P. Harrington of the Bureau of American Ethnology made field studies of the linguistics of Athapaskan tribes of Oregon, Washington, and California. James A. Geary, Catholic University of America, spent three months at Tama, Ia. on his phonetic transcript and translation of a Fox Indian manuscript giving a complete account of the culture-hero. J. Alden Mason of the University Museum, Philadelphia, whose classification of languages of the Maya area has already appeared, is now working on a classification of South American languages.

Many linguists turned their attention from aboriginal American languages to the less well known languages of the Eastern Hemisphere to help fill the demand created by the war. The Intensive Language Pro-

gram of the American Council of Learned Societies conducted this work under a subvention of the Rockefeller Foundation. Under this program instruction was made available during the summer at 18 institutions for 56 intensive courses in Arabic (Syro-Palestinian, Moroccan, Egyptian, Iraqi), Burmese, Chinese (Mandarin, Cantonese), Dutch, Fanti, Finnish, Modern Greek, Hindustani, Hungarian, Icelandic, Japanese, Korean, Kurdish, Malay, Mongolian, Pashtu, Persian, Pidgin English (Melanesian, African), Portuguese, Russian, Thai, and Turkish. Approximately 700 students were engaged in the study of these languages.

### CENTENARY AND OTHER MEETINGS

The year 1942 marked the hundredth anniversary of organized anthropology in the United States. Although one of the youngest of the sciences, anthropology was among the first in this country to be recognized by formal societal organization; the American Ethnological Society was founded in 1842 by Albert Gallatin and reorganized along scientific lines over half a century later by Franz Boas. Plans for the centenary celebration were curtailed in deference to the transportation needs of essential war services but an afternoon session was held at the American Museum of Natural History and followed by a dinner. The meeting is more fully discussed in *Science* and papers will appear in the *American Anthropologist*. Also in deference to transportation shortages, the annual meeting of both the American Anthropological Association, which was scheduled for Toronto, Canada, and of the American Folklore Society were cancelled. A Summer Institute of Folklore was held at Indiana University. The Society of Applied Anthropology held its second annual meeting in Washington. The Second Round Table Archaeological Conference met at Tuxtla Gutierrez, Chiapas: the work of the conference is covered in the October issue of *American Antiquity*. The annual meeting

## ANTHROPOLOGY AND ETHNOLOGY

of the Society for American Archaeology was scheduled for Cincinnati. The Fifth Annual Chaco Conference of anthropologists working in the Southwest and adjacent areas was held at the University of New Mexico, Albuquerque.

### EAST INDIES INSTITUTE

The East Indies Institute, begun in New York in July, 1941, got well under way in 1942 with a publication presented jointly with the Institute of Pacific Relations. Whereas the latter organization deals largely with the economic and political aspects of East Indies affairs, the East Indies Institute is devoted to the cultures, the history and the natural sciences of the Malay Archipelago, Malay Peninsula, Philippine Islands, and the regions culturally connected with them.

### NEW SOCIETIES

The Council on Intercultural Relations, 15 West 77th Street, New York, was organized as a clearing house to promote the study of personality and culture in the various countries of the world. The formation of a new organization to be called the Inter-American Society of Anthropology and Geography was announced by Ralph Beals, secretary of the working committee. The Society, which has its temporary headquarters at the Smithsonian Institution, Washington, D. C., plans to publish a journal and will begin actual operation in 1943. Papers in English, Portuguese and Spanish will be accepted and the Society will concern itself with cultural and populational problems of the Western Hemisphere.

### PUBLICATIONS

Several publication series were initiated in 1942. *Anthropological Briefs* was founded under the auspices of the American Association of Physical Anthropologists. Harry L. Shapiro of the American Museum of Natural History is editor, and the series is designed to serve as a medium of discussion and a repository for brief papers on standardizing technical procedures in physical anthropology. The

*Brinton Memorial Series*, dedicated to the memory of Daniel G. Brinton and designed primarily for ethnological monographs, was inaugurated by the Philadelphia Anthropological Society. *Columbia Papers in Archaeology and Ethnology*, instituted by the Department of Anthropology of Columbia University, has five number in press. *Montana University Publications in the Social Sciences* was founded by that university: the two monographs already published cover archaeology and ethnology. The *University of California Publications in American Archaeology and Ethnology* (for Los Angeles) will be similar in format to the Berkeley series but will be entirely independent of it. *Yale Anthropological Studies*, initiated in 1941, appeared through the Department of Anthropology of Yale University in collaboration with the Peabody Museum Department of Anthropology and the Institute of Human Relations. The *Rural Life Studies* of the United States Department of Agriculture, of which Vols. 1, 3, and 4 appeared, deserve mention although they will not be completed until the end of another year.

### MUSEUM DISPLAYS

Museums spent considerable effort during the year in removing irreplaceable anthropological and ethnological specimens to locations of safe keeping for the duration. At the same time, the display of museum materials is being constantly improved. The Denver Art Museum, with the approval of army headquarters, started a project of placing cases filled with ethnological specimens from the various world fighting fronts in local army posts. Frederick R. Pleasants of the Peabody Museum, Harvard University, reorganized their exhibits of Eskimo and Pacific Northwest Coast material. A Museum of Anthropology was established at Indiana University with George Neuman as curator; and the Portland Art Museum and the Department of Sociology and Anthropology of Reed College began a joint collection of North Pacific Arts and Crafts, espe-

## XXIV. PHILOSOPHICAL AND SOCIAL SCIENCES

cially from Oregon and Washington, to be housed in a wing of the museum.

Special efforts were made at several institutions to build up collections of anthropological library materials: the Denver Art Museum listed almost 2,000 items for the year and the li-

brary of the school of Inter-American Affairs of the University of New Mexico is making a special effort to accumulate pamphlets, circulars, and other "perishable" materials, not likely to be classified by libraries, in a "repository of information" for Latin America.

### PERIODICAL PUBLICATIONS

#### *American Anthropologist*

American Anthropological Association, Menasha, Wis.

#### *American Journal of Physical Anthropology*

36th Street and Woodland Ave., Philadelphia.

#### *American Journal of Psychiatry*

9 Rockefeller Plaza, New York City.

#### *American Journal of Psychology*

Cornell University, Ithaca, N. Y.

#### *American Journal of Sociology*

5750 Ellis Ave., Chicago.

#### *American Political Science Review*

Menasha, Wis.

#### *International Journal of Ethics*

5750 Ellis Ave., Chicago.

#### *Journal of Abnormal and Social Psychology*

Ohio State University, Columbus, Ohio.

#### *Journal of Comparative Psychology*

Mount Royal and Guilford Aves., Baltimore, Md.

#### *Journal of Educational Psychology*

Mount Royal and Guilford Aves., Baltimore, Md.

#### *Journal of Educational Sociology*

32 Washington Place, New York City.

#### *Journal of Experimental Psychology*

Ohio State University, Columbus, Ohio.

#### *Journal of General Psychology*

Journal Press, Provincetown, Mass.

#### *Journal of Philosophy*

515 West 116th Street, New York City.

#### *Journal of Social Psychology*

Journal Press, Provincetown, Mass.

#### *Mental Hygiene*

1790 Broadway, New York City.

#### *Philosophical Review*

114 Fifth Ave., New York City.

#### *Psychoanalytic Review*

3617 Tenth Street N.W., Washington, D. C.

#### *Psychological Review*

Ohio State University, Columbus, Ohio.

#### *Social Research*

66 West 12th Street, New York City.

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN ANTHROPOLOGICAL ASSOCIATION, American Museum of Natural History, New York City.

AMERICAN ASSOCIATION OF PHYSICAL ANTHROPOLOGISTS, American Museum of Natural History, New York City.

AMERICAN ECONOMIC ASSOCIATION, Northwest University, Evanston, Ill.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

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| <p>AMERICAN ETHNOLOGICAL SOCIETY,<br/>Columbia University, New York<br/>City.</p> <p>AMERICAN GENETIC ASSN., 308 Victor<br/>Bldg., Washington, D. C.</p> <p>AMERICAN PHILOSOPHICAL SOCIETY, 104<br/>S. 5th St., Philadelphia, Pa.</p> <p>AMERICAN POLITICAL SCIENCE ASSN.,<br/>105 Harris Hall, Northwestern Uni-<br/>versity, Evanston, Ill.</p> <p>AMERICAN PSYCHIATRIC ASSN., 9<br/>Rockefeller Plaza, New York City.</p> <p>AMERICAN PSYCHOLOGICAL ASSN.,<br/>Univ. of Minnesota, Minneapolis,<br/>Minn.</p> <p>AMERICAN PSYTOPATHOLOGICAL ASSN.,<br/>520 Commonwealth Ave., Boston,<br/>Mass.</p> | <p>AMERICAN SOCIETY FOR PSYCHICAL RE-<br/>SEARCH, 40 E. 34th St., New York<br/>City.</p> <p>AMERICAN SOCIOLOGICAL SOCIETY, Uni-<br/>versity of Pittsburgh, Pittsburgh,<br/>Pa.</p> <p>NATIONAL COMMITTEE FOR MENTAL<br/>HYGIENE, 1790 Broadway, New York<br/>City.</p> <p>NATIONAL INSTITUTE OF SOCIAL SCI-<br/>ENCES, 271 Madison Ave., New York<br/>City.</p> <p>PSYCHOLOGICAL CORPORATION, 522 Fifth<br/>Ave., New York City.</p> <p>SOCIETY FOR AMERICAN ARCHAEOLOGY,<br/>10 Frisbie St., Cambridge, Mass.</p> |
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# PART SEVEN

## THE HUMANITIES

### DIVISION XXV

#### LITERATURE AND LANGUAGE

##### FICTION

BY PETER MONRO JACK  
CRITIC AND LECTURER

##### FICTION AND THE WAR

There was a decline in the number of new novels in 1942, the total of 1,108 comparing with 1,249 new works of fiction in 1941. Some writers were in service; others were engaged in propaganda or commissioned work. Ernest Hemingway edited an anthology called *Men at War* (Crown Publishers) from Tolstoy to Hemingway himself. John Steinbeck wrote the story of a bomber team for the U. S. Army Air Forces in *Bombs Away* (Viking) with a series of photographs.

Fiction was also less popular in the bookstores. Books by war correspondents and books on technical subjects relating to the war were considered more important by the public, 791 such books (including military books) being published, as against 741 the year before. It was generally felt that actual experience was more interesting reading than imagined effects. *See Here, Private Hargrove*, a topical book of sketches of army life, was outselling the popular novel.

##### POPULAR HANDOVERS FROM 1941

The year began with some 1941 novels still extremely popular: Mary Ellen Chase's *Windswept* (Macmillan); Edna Ferber's *Saratoga Trunk* (Doubleday); A. J. Cronin's *The Keys of the Kingdom* (Little, Brown). The Pulitzer prize was awarded to

Ellen Glasgow for *In This Our Life* (Harcourt), an award long overdue.

##### WAR NOVELS

**France.**—Every third novel had a war background: German, Austrian, French, Czech, English, Russian, American. The geographical changes were so many that it is impossible exactly to classify them. Most were authentic and autobiographical or had sources of information. *A Time for Silence* is Andre Maurois' novel of pre-war France (Appleton). The Fall of France is seen in the diary-like novel by Vladimir Pozner, *The Edge of the Sword* (Modern Age, trans.) Louis Bromfield tells the same story in *Until The Day Break* (Harper), the story of an American girl and the Gestapo. *Reprisal* by Ethel Vance (Little, Brown) is a story of Nazi-occupied France by the author of *Escape*, whose real name is Grace Zaring Stone. *Men Without Country* by Charles Nordhoff and James Norman Hall (Little, Brown) tells of the dilemma of a Free French ship during the fall of France. *The Days Between* by Elizabeth Foster (Harper) tells of refugees from Paris during June, 1940. *Assignment in Brittany* by Helen MacInnes (Little, Brown) is another war melodrama by the author of *Above Suspicion*. Robert Hillyer's second novel is about Paris in 1919, *My Heart For Hos-*

*tage* (Random). Kay Boyle writes of France in 1940 in *Primer for Combat* (Simon & Schuster). Jules Romain's *The New Day* is the tenth installment of *Men of Good Will* (Knopf, trans.).

**England.**—*The Long Alert* by Philip Gibbs (Doubleday) is a story of England during the war. Somerset Maugham wrote of the war experiences of a country family and the intrigues of a "refugee" spy in *The Hour Before the Dawn* (Doubleday). Norman Collins' *The Quiet Lady* deals with England and France yesterday and today (Harper). *Put Out More Flags* by Evelyn Waugh who is now with the Commandos has all of his old wicked and amusing characters, unchanged by war (Little, Brown).

**American.**—Books dealing directly or indirectly with the war are: *The Sea-Gull Cry* by Robert Nathan (Knopf) of refugees in Cape Cod; *One Destiny* by Phil Stong (Reynal), the impact of the war on a small Iowa town; *Time of Peace* by Ben Ames Williams (Houghton Mifflin), the shadow of war, ending with Pearl Harbor; *The Sound of an American* by David Ormsbee (Dutton). Upton Sinclair continued his story of an American in Europe with *Dragon's Teeth*, of the Nazi social and political system beginning to function (Viking).

**Germany and Russia.**—*Young Woman of Europe* is the story of German refugees by Ruth Feiner (Lippincott) with possible autobiographical detail. A horror story of Nazi concentration camps comes from Anna Seghers in *The Seventh Cross* (Little, Brown). *The Children* by Nina Fedorova (Little, Brown), a story of Russian refugees in China, with characters from her *The Family*. *Rebirth in Liberty* by Eva Lips (Flamingo) deals with the story of a German exile anthropologist's wife.

**Other Countries.**—*The Moon Is Down* by John Steinbeck (Viking) the story of an occupied country, presumably Norway, and of the silent courage of the natives, was perhaps the most important of the war novels,

turned into a play, a movie, and a radio drama. A Novel about Lidici, *Men in Black*, was written by Owen Elford (the pen-name of an Austrian playwright) published by Unger. *Arise From Sleep* by Elizabeth Deleahanty (Viking) is about Fascist Italy. *The Undiscoverables* by Ralph Bates (Random House) is set partly in anti-Fascist Italy. *The Seed Beneath the Snow* is Ignatio Silone's latest novel on Anti-Fascist Italy, showing how Fascism is incompatible with Christianity. *Frontier Passage* is Ann Bridge's novel of the Spanish frontier in 1938 (Little, Brown). James Aldrige, an Australian war correspondent, writes a story of war-time Greece and Crete, chiefly of the R.A.F., in *Signed With Their Honour* (Little, Brown). *Hostages*, by Stefan Heym (Putnam) is concerned with the Gestapo in Prague. Pearl Buck writes on China during war in *Dragon Seed* (Day), generally thought her best, after *The Good Earth*. A translation from the Chinese of T'ien Chun (Smith and Durell) is *Village in August*, of China at war. In *The Foreigners* Preston Schoyer writes what seems an autobiographical story of China (Dodd, Mead). *The Fabulous People* by Robert Norman Hubner (Knopf) is a good example of the reporter fiction of the times, by an American journalist in Japan. *The Three Bamboos* is also a good novel about Japan, by Robert Standish (Macmillan). *The Cheat* is Karl Capek's last unfinished novel (Nor-

#### THE AMERICAN REVOLUTION

Historical novels of the Revolution and the Civil War continued to be written and read. *Rivers of Glory*, the continuation of the successful series on the maritime states in the Revolution by F. Van Wyck Mason (Lippincott), climaxing here with the Siege of Savannah; *Gentleman Ranker* by John Jennings (Reynal); *The Unvanquished* by Howard Fast (Duell), of Gen. Washington in New York and Westchester; *The Perilous Night* by Burke Royce (Viking), of the Hudson River campaigns; *His*

*Majesty's Yankees* by Thomas H. Raddell (Doubleday), of the attack on Nova Scotia; *Look to the Mountain* by LeGrand Cannon Jr. (Holt), of New Hampshire's part—a very popular novel; *The Day Must Dawn* by Agnes Sligh Turnbull (Macmillan), of Western Pennsylvania.

#### THE CIVIL WAR

In *Wild Is the River* Louis Bromfield writes a good story of the Yankee occupation of New Orleans (Harpers). *Drivin' Woman* by Elizabeth Pickett Chevalier (Macmillan) is a very popular novel of a woman fighting the post-Civil War tobacco trusts in the South. *Tap Roots* by James Street (Dial) is a romantic novel of Mississippi just before the war. *The Drums of Morning* by Philip Van Doren Stern (Doubleday) is a distinguished novel of the Civil War, chiefly concerned with the Abolitionists. Henry Bellamann's new novel, *Floods of Spring*, deals with an individual in the Civil War (Simon & Schuster).

#### OTHER HISTORICAL NOVELS

*The First Gentleman of America*, by James Branch Cabell, is subtitled *A Comedy of Conquest*. It is a story of 16th century Virginia, of an Indian visiting Spain and France (Farrar). *Man Cannot Tell* by Philip Scruggs (Bobbs-Merrill) is a story of Colonial Virginia. *Plume Rouge* by John Upton Terrell (Viking) is a long romantic novel of the pioneers to the West. *A High Wind Rising* by Elsie Singmaster (Houghton Mifflin) a story of the early Pennsylvania settlers by an ancestor of the German pioneers.

*The Friends of the People* by Alfred Neuman (Macmillan, trans.) continues the history of 19th century France, the Commune of 1870. *Rene-gade* is Ludwig Lewisohn's novel of 18th century France (Dial). *Bride of Glory* by Bradda Field is an historical novel of Lord Nelson's Lady Hamilton (Greystone). *Don Pedro and the Devil* by Edgar Maass (Bobbs-Merrill) is concerned with 16th century Spain and the conquistadors. *Westward the Sun* by Brigid

Knight (Crowell) is an historical novel of South Africa. *Frenchman's Creek* is Daphne du Maurier's first novel since *Rebecca*, a picaresque adventure of the time of Charles II (Doubleday). *The Ivory Mischief* is about 17th century life in Paris, before the Revolution, by Arthur Meeker, Jr. (Houghton Mifflin). *Rogue's Legacy* is Babette Deutsch's story of Francois Villon (Coward-McCann). *A Little Lower Than the Angels* by Virginia Sorenson (Knopf) is a story of the 1846 religious movement by a descendant of the Mormons.

#### POPULAR AND MISCELLANEOUS FICTION

*The Song of Bernadette* by Franz Werfel (Viking, trans.) was a great success. It is a story of the Lourdes miracles of 1858 which resulted in the canonization of Bernadette in 1933. *The Robe* by Lloyd Douglas (Houghton Mifflin) also was high in the list of best sellers, and also is a religious story—of Jesus in prison. Manuel Komroff wrote the story of Jesus in *In the Years of Our Lord*. Rachel Field's last novel, called her best, is *And Now Tomorrow* (Macmillan), of a Massachusetts mill town. Another last book is *Sam Small Flies Again* (Harper), the continuation of the adventures of The Flying Yorkshireman, by Eric Knight, who was killed in January, 1943 in an airplane crash on his way to North Africa.

Christopher Morley's new story, *Thorofare* (Harcourt) is of an English family, especially the young boy, moving from a small English town to an American city. *The Just and the Unjust* by James Gould Cozzens (Harcourt) was much praised for its accurate picture of a murder trial. G. B. Stern returned to the Rakonitz family in *The Young Matriarch* (Macmillan). *The Valley of Decision* is Marcia Davenport's story of American business and family life from 1870 to the present time (Scribner). The Dial Award was given to Gladys Schmitt for *The Gates of Aulis*, an unusual story of Pittsburgh (Dial). The Intercollegiate Literary Fellowship was given to Maureen

Daly for her *Seventeenth Summer*, a story of love in a small town (Dodd, Mead). Taylor Caldwell writes of the steel industry of Pennsylvania in *The Strong City* (Scribner).

A first novel that attracted attention was Willam Bradford Huie's *Mud on the Stars* for its rather shocking honesty about American politics, sex, religion (Fischer). In *The Little People* Albert Halper, ordinarily a proletarian theorist, turns to real people in a garment shop (Harper). Fitzroy Davis writes an authentic novel of the theatre in *Quicksilver* (Harcourt). *Only One Storm* by Granville Hicks (Macmillan), the portrait of a New England man divided between Communism and Democracy, was successful. *Islandia*, the condensed version of a million-word novel by a professor of law, Austin Tappan Wright who died in 1931, is of an imagined agricultural society—the idea of agrarianism against industrialism (Farrar). Lion Feuchwanger continued his history of Josephus in *Josephus and the Emperor*.

#### REGIONAL NOVELS

*The Cup and the Sword* by Alice Tisdale Hobart (Bobbs-Merrill) concerns three generations of California vineyard workers. *Wind Before Rain* by John D. Weaver (Macmillan) is a first novel, of a simple farm community in Virginia and its invasion by industry. *Family Album* is New England regionalism and part autobiographical, by Agnes Rothery (Dodd, Mead). Vermont in the 19th century is pictured in a farm story by R. L. Duffus in *Victory on West Hill* (Macmillan). *The Sundowners* by Ward Dorrance (Scribners) is a boy's life in Missouri. John Faulkner's second novel, *Dollar Cotton* (Harcourt) is a Mississippi story. Gertrude Diamant's *Days of Ofelia* (Houghton) is set in Mexico. *The Man Who Killed the Deer* by Frank Waters (Farrar) is about the Pueblo Indians.

*Village of Glass*, by Frances Frost (Farrar) is about an old New England village. *Cross Creek* by Marjorie Kinnan Rawlings (Scribner) is an-

other of her popular pieces about Florida. *The Burning Wheel* by Slater Brown (Bobbs-Merrill) is a lurid and tragic novel of life in a Connecticut farm taken over by New York sophisticates. *This Side of Land* by Elizabeth Hollister Frost (Coward-McCann) tells of the early years of Nantucket. A first novel by Nelson Algren, with an introduction by Richard Wright, is *Never Come Morning* (Harper), a sociological story of Poles in Chicago.

*Fire in Summer* by Robert Ramsey (Viking) is concerned with a poor white family in the South, its hatred, poverty and brutality. *Head of the Line* (Macmillan) is Gladys Hasty Carroll's latest New England novel. Kenneth S. Davis's first novel is *In the Forests of the Night* (Houghton Mifflin), of soil conservation in northern Minnesota. *The Rock and the Wind* by Vivien Bretherton (Dutton) is a regional-period novel of Oregon in the late 19th century. *Flamingo Road* (Putnam's) is Robert Wilder's version of local and state politics in Florida during the bootleg era. Don Jackson's *Archer Pilgrim*, the story of an Iowa farm boy, won honourable mention in the Intercollegiate Literary Fellowships. *Little Man* by G. Herbert Sallans (Bruce Humphries), a first novel, won the All-Canada Award for a story of Canadian pioneering. *Deep Valley* by Don Tothoroh (Fischer) is about California. Ruth Suckow's new novel, *New Hope* (Farrar) is again of a small Iowa town. Paul Horgan writes of the southwest background in *The Common Heart* (Harper). Hamilton Basso writes of contemporary New Orleans in *Sun in Capricorn* (Scribner). A promising first novel is *Hurricane Caye* by Margaret Shedd (Harper), of the Central American tropics.

#### PERIOD NOVELS

*Meet Me in St. Louis*, by Sally Benson (Random), 1904 World's Fair or Louisiana Purchase Exposition; *Coarse Gold*, by Edwin Corle (Dutton), of the Nevada gold boom in the nineties; *Come Slowly Eden*, by



Laura Benét (Dodd, Mead), a biographical novel of Emily Dickinson; *Crescent Carnival* by Frances Parkinson Keyes (Messner), of New Orleans and Louisiana; *Cousin William* by Delia T. Lutes (Little, Brown), an American family in the eighties in southern Michigan; *Young Ames* by Walter D. Edmunds (Little, Brown), romantic adventures of Old New York; *The Firedrake* by Elgin Groseclose, Boston in the Eighteen-fifties.

#### THE WOMEN NOVELISTS

Dawn Powell's *A Time to be Born* (Scribner's) was the wittiest book of the year, dealing with an unscrupulous career woman in politics and social life who could be any of a half dozen public figures. *The Company She Keeps* by Mary McCarthy (Simon & Schuster) made something of a sensation by its frank exposure of a woman's sex life. *Night Shift* (Random House) is Maritta Wolfe's second novel, of a Michigan industrial city, full of life and sensation. *The Uninvited*, by Dorothy Macardle (Doubleday) is a clever and popular ghost story. Susan Glaspell returns to the novel in *Norma Ashe*, the portrait of a woman (Lippincott). Eudora Welty's *The Robber Bridegroom* (Doubleday) is a sort of modern fairy tale. In her first novel Betty Baur writes of an American girl in England in *The White Queen* (Viking). Dorothy Van Doren in *Dacey Hamilton* (Harper) writes of a woman looking for a newspaper job in New York in 1918. Nancy Hale's first novel is *The Prodigal Women* (Scribner), on women in the twenties and their disorderly loves.

#### SHORT STORIES

*The Best American Stories of 1942*,

the collection begun by the late Edward O'Brien, was edited by Martha Foley (Houghton Mifflin), contained 30 stories by old and new writers. *The O. Henry Memorial Award: Short Stories*, edited by Herschel Brickell (Doubleday), gave the prizes to Eudora Welty, Wallace Stegner, and Wilbur L. Schramm, in that order. There was a special prize for a first story awarded to Jeanne E. Wylie. Also included were Kay Boyle, David Cornell De Jong, Nancy Hale, Garson McCullers, and Jerome Weidman. Ludwig Bemelmans' *I Love You, I Love You, I Love You* (Viking) contained popular sketches and stories with a continental flavour. Irwin Shaw's *Welcome to the City* (Random House) is mainly about New York and its discontented people. Manuel Komroff collected 30 of his stories in *All In Our Day* (Harper). In *Bend in the River* Jan Valtin writes a series of sketches when imprisoned in San Quentin, 1926-1929 (Alliance). William Faulkner's new short stories are in *Go Down, Moses*, of Mississippi from 1840 to 1940 (Random House), racial problems of the South and its history.

A first book of short stories is *Tales from Bective Bridge* by Mary Lavin (Little, Brown), an American writing about Ireland, much praised by Lord Dunsany. *Children of Abraham* is a book of short stories on the Jewish tragedy, translated from Sholem Asch (Putnam's). James T. Farrell's new stories are collected in *\$1,000 a Week*, laboratory material (Vanguard). A compilation by Whit Burnett, editor of *Story Magazine*, is called *This Is My Best* (Dial) and contains 150 self chosen and complete pieces, with the reasons for their selection.

## POETRY

### POETRY

BY PETER MONRO JACK  
CRITIC AND LECTURER

#### WAR POEMS

The best known poem of the year was Edna St. Vincent Millay's *The Murder of Lidici* (Harper), written expressly for radio presentation and heard by millions from coast to coast. *Wake Island* is by Muriel Rukeyser (Doubleday). *The Alert* is Wilfred Gibson's English poems of the Second World War (Oxford U.P.). *Our Lady Peace and Other War Poems* by Mark Van Doren is on war themes (Poet of the Month: New Directions). *Ruins and Visions* by Stephen Spender contains poems which have much to say about the poet's experience in the Spanish Civil War, and there are some early poems (Random House). *Winds of Chaos* is an epic poem dealing with Europe at war, by Stanton A. Coblentz (Wings Press). W. R. Rodgers writes *Awake! And Other War-time Poems* (Harcourt); he is a young Ulsterman.

#### WAR ANTHOLOGIES

*The Soldiers' Collections of Poems and Ballads* is an anthology of poems edited by William Allan Brooks and introduced by Alfred Kreyenborg (Kenmore). *Marines, Fall In!*, compiled by James Snedeker, is a collection of rhymes composed by men of the U. S. Marine Corps (Honolulu: Tongg). *Poems of This War by Younger Poets* is a collection edited by Patricia Ledward and Colin Strang, introduction by Edmund Blunden (Cambridge U.P.). *Your Flag and Mine* is a collection of patriotic poems (Reilly and Lee Co., Chicago). *Pack Up Your Troubles* is edited by Ted Malone for men in the services (Whittelsey). *The Immortal Garland*, compiled by Bertrand Harris Bronson, is an anthology of English war poetry—for the benefit of the British War Relief As-

sociation of Northern California (Berkeley: Killick).

#### MISCELLANEOUS ANTHOLOGIES

*A Treasury of Great Poems, English and American* is compiled by Louis Untermeyer (Simon & Schuster). This well known anthologist of verse selects poetry from the Bible to Casey Jones with "integrating" comments. *The Best Poems of 1941* is edited by Thomas Moulton (Harcourt). *An American Anthology* is edited by Tom Boggs, containing 67 poems appearing in an anthology for the first time (Ill.: Decker). *The Voice of Freedom* is a collection of contemporary poetry selected by Ruth Lawrence (Haven Press). John Kiernan lists the poems that he has liked in *Poems I Remember*, published by Doubleday. *Reading Poems* is an introduction to poetry by Wright Thomas and Stuart Gerry Brown (Oxford U.P.).

*Five Young American Poets* includes the works of Karl Shapiro, Jeanne McGahey, Clark Mills, David Schubert, and Paul Goodman—selections, photographs, biographies (New Directions). *Southwestern Anthology of Verse 1941* is a collection of regional verse edited by Pearle Moore Stevens (San Antonio: Naylor). *Anthology of Canadian Poetry* (English) is compiled by Ralph Gustafson in the Penguin Books and comprises the work of 56 Canadian poets. Athie Sale Davis collects newspaper verse in the *Anthology of Newspaper Verse for 1941* (Harrison). *The Paris We Remember* is a collection of poetry about Paris, selected and translated by Elizabeth Finley Thomas (Appleton) from French, Italian, American, German, and English authors. *An Anthology of Norwegian Lyrics* is translated by Charles Wharton Stork and introduced by C. J. Hambro (Princeton U.P.).

*Chorus for America* is a collection of work by six Filipino poets, edited by Carlos Bulosan (Los Angeles: Wagon & Star). *Christmas Songs* is edited by Hendrik Willem van Loon and Grace Gastagnetta (American Artists Group).

#### COLLECTIONS AND SELECTIONS

*Smoke and Steel, Slabs of the Sunburnt West, Good Morning, America*, by Carl Sandburg (Harcourt) are three books out of print now put together, and they make American poetry out of the crude and rude American life of the workers and their environment. *The Collected Poems of Lew Sarett* (Holt) is introduced by Sandburg, and is written of nature and outdoor life—fishing, hill-climbing, forest-ranging—and in especial it perpetuates the life and speech of the American Indian. *Selected Works of Stephen Vincent Benét*, Volume I, Poetry, Volume II, Prose. (Farrar & Rinehart). The verse includes the narrative poem, *John Brown's Body*, the best of the lyrics, and the "Nightmare" poems. *Spilt Milk* is a collection of Morris Bishop's poems, old and new (Putnam). *Elbow Room* is the first volume of the collected poems of the Irish wit, Oliver St. John Gogarty (Duell). *The Poems of Samuel Johnson* have been edited by David Nichol Smith (Oxford).

#### NEW POEMS

*Have Come, Am Here* was one of the discoveries of the year. The author, José Garcia Villa, a young Filipino, writes his first book in a new language, in a metaphysical or religious mood, and is obviously already a learned and an absolute poet (Viking). The other poet who received attention was Karl Jay Shapiro for his *Person, Place and Thing* (Reynal), satirical poems of power and intelligence. *The Revolutionists* is a three-act tragedy in verse by Selden Rodman, on the slave revolt in Haiti (Duell). It was played there in the author's presence. *Blood for Stranger* by Randall Jarrett (Harcourt) is by a young poet of sensitive talent who belongs very much to the modern

world. *Parts of the World* is by Wallace Stevens (Knopf), more poems from this accomplished poet who fuses intellect with music.

*Note Books of the Night*, by Edmund Wilson (San Francisco: The Colt Press) is a new book by the noted critic, with some pieces of prose (The Three Limerary Critics) that had been published before. Mostly satirical in effect. *The Garden is Political* by Malcolm Brinnin (Macmillan) is a first book of poetry, conscious of the political scene, but better in the author's poetry of his garden, friends and self. *Long View*, by Genevieve Taggard (Harper) is also politically self-conscious, more personal than political.

*The Second World*, by R. P. Blackmur (Cummington Press), is a contemporary abstraction. *The Sight of Marble*, by Edward James (Messner) is readable journalism. Maxwell Bodenheim's new book is *Lights in The Valley* (Harbinger). Margaret Widemer introduces Ruby Berkley Goodwin's *From My Kitchen Window* (Wendell Malliett). *Country Poems* by Elizabeth Coatsworth (Macmillan) is New England poetry which for simplicity of feeling and subtlety of expression has been compared with Emily Dickinson. Struthers Burt writes a book of ballads in *War Songs* (Scribner). Marsden Hartley writes more poems of Maine in *Sea Burial* (Portland: Tebbetts). Robert P. Tristram Coffin's new volume is *There Will be Bread and Wine* (Macmillan).

Edgar Lee Masters writes of the Illinois country in *Along the Illinois*. (Ill.: Decker). Robert Frost writes his seventh book of poems in *A Witness Tree* (Holt). *Natalie Maisie and Pavilastukay*, by John Masefield (Macmillan) is intended for a ballet performance. A new volume from the League to Support Poetry is *Heavenly Body*, by Starr Nelson, which is a mixture of warmth and words not altogether resolved in separate poems. Winfield Townley Scott's new volume is *Wind the Clock*, from the press of James A. Decker.

*Proud Riders* by H. L. Davies is

## HISTORY

an original book of poems about the Far West by the Harper Prize novelist. Arthur Davison Ficke's new verse is *The Gates of Time and Other Poems* (Knopf). Charles Norman published a fine book of lyrics in *The Savage Century* (Decker). Kenneth Patchen's new collection is *The Dark Kingdom* (Harris and Givens). A sonnet sequence is Mary Sloane's (Dutton) *Strong Cables Rising*. Nathalie Crane writes *The Death of Poetry*, a dramatic poem in two parts (Monastine Press). Kathleen Norris expresses her faith in America in *One Nation Indivisible* (Doubleday).

### THE POETS OF THE MONTH

The New Direction Press publishes *Selected Poems* by Carl Rakosi, objectivism poetry which fastidiously avoids expansiveness, favoring the "aristocracy of the word." *The Sword on the Table*, by Winfield Townley Scott (New Directions), is the story of a New Englander in New England style. In *If There is Time*, by Hildegard Flanner (New Direc-

tions), there is excitement and suspense, delicately modulated. Robert Penn Warren's intelligent verse is in *Eleven Poems on The Same Theme*.

### TRANSLATIONS

*Sonnets to Orpheus*, by Rainer Maria Rilke, translated from the German by M. D. Herter Norton (Norton), a careful translation by a well known translator of Rilke. *Poems from The Book of Hours* ("Das Stundebuch") are translated by Babette Deutsch (New Directions). *Goethe's Faust*, translated by Carlye F. MacIntyre and illustrated by Rockwell Kent (New Directions), is probably the best translation yet made.

### LIGHT VERSE

*Good Intentions* by Ogden Nash (Little, Brown), is Nash's first verse in four years, as gay and wise as ever. *Innocent Merriment* is Franklin P. Adams's anthology of light verse (Whittlesey).

## HISTORY

BY OSCAR HANDLIN

DEPARTMENT OF HISTORY, HARVARD UNIVERSITY

### GENERAL EFFECT OF WAR

The writing of history suffered seriously from the impact of the first year of war. Many historians gave up their work to enter either the armed services or civilian agencies connected with the war effort, while reduced college staffs and accelerated programs increased the academic burdens of those who remained and offered an additional obstacle to historical scholarship. To the inaccessible materials in the great libraries of Europe were added the manuscript collections of the Library of Congress and of other eastern institutions which have been stored away against the danger of air raids. These factors have operated to reduce output but thus far have not seriously affected quality. Nor have they effected any

significant changes in interest; by and large, the most popular fields of research remain the same as in the past decade.

### PRIZES

The Pulitzer Prize in American history went to Margaret Leech for *Reveille in Washington* (Harper, 1941), the George Louis Beer Prize to A. J. Marder for *Anatomy of British Sea Power* (Knopf, 1940), and the Beveridge Memorial Prize of the American Historical Association to C. A. Barker for *Background of the Revolution in Maryland* (Yale, 1940).

### GENERAL HISTORY

A number of studies in this field reflect the influence of the current crisis. John U. Nef's *United States*



and Civilization (Chicago) is a brilliant and provocative, if not always convincing, analysis of the leading threads in modern European development; and Quincy Wright's *Study of War* (Chicago) contains an informative historical section. Other works that deal with cross sections of long periods are Max Hamburger's *Awakening of Western Legal Thought* (Norton), *Two Currents in the Thought Stream of Europe* by Elmer G. Suhr (Johns Hopkins), and Paul H. Furfey's *History of Social Thought* (Macmillan). In the field of historiography, *Some Historians of Modern Europe* (Chicago) contains a collection of essays of varying value, edited by Bernadotte E. Schmidt; and Edward M. Hulme's *History and Its Neighbors* (Oxford) discusses the nature of discipline and its relations with other sciences.

#### THE UNITED STATES— COLONIAL PERIOD

Two studies in this period by T. J. Wertenbaker are of particular importance. *The Old South: the Molding of Its Civilization* (Scribner) traces the origins of the influences creating the Southern pattern of civilization with special emphasis on the institution of slavery; and *The Golden Age of Colonial Culture* (New York Univ.) contains a series of exploratory essays on the cultural life of six colonial towns. A more detailed study of one of these cities may be found in Carl and Jessica Bridenbaugh's *Rebels and Gentlemen* (Reynal & Hitchcock), an interesting and illuminating study of Philadelphia, the third cultural center of the British Empire under the Georges. *Religion in Colonial America* by W. W. Sweet (Scribner) emphasizes the problems of separation of church and state; Frank J. Klingberg's *Appraisal of the Negro in Colonial South Carolina* (Associated Publishers) is a study in adjustment; and Max Savelle's *Foundations of American Civilization* (Holt) is a competent survey.

The revolutionary period has been considered in a number of valuable monographs. *The Valley of Virginia*

in the American Revolution by Freeman H. Hart (North Carolina), *The Revolutionary Scene in New Jersey* by Robert V. Hoffman (American Historical), and Robert L. Brunhouse's *Counter-Revolution in Pennsylvania* (Pennsylvania Historical Commission) describe the internal history of the three regions. *Lafayette and the Close of the American Revolution* by Louis Gottschalk (Chicago) is a study of Lafayette between 1779 and 1793; and Charles M. Thompson's *Independent Vermont* (Houghton, Mifflin) is an account hostile to Ethan Allen. Very useful is E. C. Burnett's *Continental Congress* (Macmillan) which condenses an immense amount of material from the official documents and letters.

#### SOCIAL AND INTELLECTUAL HISTORY

Two of the most stimulating works of the entire year probe into the origin and character of American ideas. The suggestive essays in Constance Rourke's *Roots of American Culture* (Harcourt, Brace), unfortunately cut short by the death of their author, investigate the sources of American cultural traditions; and Alfred Kazin's *On Native Grounds* (Reynal & Hitchcock) analyzes the discovery of America by its own writers in the past half century. *The Economic Novel in America* by W. F. Taylor (North Carolina), *French Drama in America* by Lewis F. Waldo (Johns Hopkins), and Walter Blair's *Horse-Sense in American Humor* (Chicago) treat other phases of literary history, while David Ewen's *Music Comes to America* (Crowell), *Some American Primitives* by C. E. Sears (Houghton, Mifflin), and Jerome Mellquist's *Emergence of an American Art* (Scribner) deal with other arts.

Competent studies also throw light on other aspects of American social history. Religious developments are the subject of C. R. Keller's *Second Great Awakening in Connecticut* (Yale) and Elbert Russell's *History of Quakerism* (Macmillan). N. H. Burr's *Education in New Jersey, 1630-1871* (Princeton), Lucy Salamanca's

## HISTORY

*Fortress of Freedom, the Story of the Library of Congress* (Lippincott) and *America's Struggle for Free Schools* by S. L. Jackson (American Council on Public Affairs) contribute to educational history. B. H. Clark's *Tennessee Yeomen, 1840-1860* (Vanderbilt), *Ante-Bellum South Carolina* by R. H. Taylor (North Carolina), and W. E. Cox's *Southern Sidelights* (Edwards & Broughton) concern the South. Many phases of immigrant development are touched in *The Tragedy of German America* by John M. Hawgood (Putnam), a history of the century up to 1930, and in the essays in *The Pennsylvania Germans*, edited by Ralph Wood (Princeton). Other works are A. H. Shaw's *Plain Dealer 1842-1942* (Knopf), a history of the Cleveland newspaper; *Sound and Fury, an Informal History of Broadcasting* by Francis Chase Jr. (Harper); Grace Adams' *Mad Forties* (Harper), a chronicle of the 1840's; and *Odd By-Ways in American History* by Charles Warren (Harvard).

### ECONOMIC HISTORY

A significant contribution to the understanding of American economic life came from Thomas C. Cochran and William Miller whose *The Age of Enterprise* (Macmillan) places industrial and business life in its social setting and attempts to evaluate its influence upon social development. While not always successful in interpretation, it represents a refreshing departure from conventional treatments. In a somewhat narrower field, Sidney Ratner considers *American Taxation* (Norton) as a social force in the development of American democracy. Other monographs include Carey McWilliams' *Ill Fares the Land* (Little, Brown), a study of mechanized agriculture; *Airways* by Henry L. Smith (Knopf), a history of commercial aviation; *American Glass* by G. S. and Helen McKearin (Crown); and *Merchants and Trade of the Connecticut River Valley* by M. E. Martin (Smith). *The Golden Flood* by Herbert Asbury (Knopf) and *Flush Production* by Gerald Forbes (Oklahoma) discuss the petro-

leum industry; and the Studebakers, from carriage dealers to automobile manufacturers, are portrayed in *More Than You Promise* by K. A. Small-zried and D. J. Roberts (Harper).

### THE WESTWARD MOVEMENT

Considerable attention was this year turned upon the history of the frontier and the westward movement. G. D. Harmon's *Sixty Years of Indian Affairs* (North Carolina) and L. B. Priest's *Uncle Sam's Stepchildren* (Rutgers) together cover the problem of the American Indian in the period to 1887. R. M. Robbins' *Our Landed Heritage* (Princeton) surveys the history of the public lands from 1776 to 1936. E. E. Dale's *Cow Country* (Oklahoma) describes the range cattle industry and its social background. Walter Havighurst's *Long Ships Passing* (Macmillan) tells the story of the Great Lakes. *Desert Saints* by Nels Anderson (Chicago) and G. B. Watts' *Waldenses in the New World* (Duke) concern two phases of Mormon history. State histories include *Desert Challenge* (Nevada) by R. O. Lillard (Knopf), *Thirty-First Star* (California) by J. A. B. Scherer (Putnam), Grant Foreman's *History of Oklahoma* (Oklahoma), and M. D. Beal's *History of Southeastern Idaho* (Caxton). Other works in this field were Fred Landon's *Western Ontario and the American Frontier* (Yale); W. S. Nye's *Carbine and Lance* (Oklahoma), a history of Fort Sill; *Westward America* by H. R. Driggs (Putnam), a description of western trails; Adele Ogden's *California Sea Otter Trade 1784-1848* (California); *And There Were Men* by Russell Blankenship (Knopf), an account of some characters in northwestern history; and H. W. Bradley's *American Frontier in Hawaii* (Stanford).

### CONSTITUTIONAL LAW AND POLITICS

B. F. Wright's *Growth of American Constitutional Law* (Reynal & Hitchcock) is a fine survey and interpretation centering in a history of the development of the doctrine of judi-

cial review. In *Lawyers and the Constitution*, B. R. Twiss (Princeton), discusses the evolution of *laissez faire* concepts. *Democratic-Republican Societies 1790-1800* by E. P. Link (Columbia) throws light on a neglected subject.

#### DIPLOMATIC HISTORY

T. A. Bailey's *Policy of the United States Toward the Neutrals* (Johns Hopkins) is a scholarly and thorough study in the diplomacy of the First World War. Allan Nevins' *America in World Affairs* (Oxford) attempts to prove, not always successfully, that active participation in world politics was a traditional American policy. *The Caribbean Policy of the United States 1890-1920* (Johns Hopkins) is treated by W. H. Calcott; and Canadian-American relations are the subject of E. W. McInnis' *Unguarded Frontier* (Doubleday, Doran). George E. Taylor's *America in the New Pacific* (Macmillan) is a brief but stimulating account, and E. E. Denison's *Senate Foreign Relations Committee* (Stanford) traces the influence of that body on the diplomacy of the United States.

#### THE CIVIL WAR

The causes of the Civil War continue to draw attention. In *The Coming of the Civil War* (Scribner), Avery Craven seeks a new interpretation in terms of emotional hatred between the sections; but David M. Potter's *Lincoln and His Party in the Secession Crisis* (Yale) shows that the picture is much more complex. *Soil Exhaustion and the Civil War* by W. C. Bagley Jr. (American Council on Public Affairs) points to the importance of a serious economic factor. The war itself is the subject of the first volume of *Lee's Lieutenants* by Douglas Southall Freeman (Scribner), a study of generalship from Manassas to Malvern Hill. Carl Sandburg's *Storm over the Land* (Harcourt, Brace) condenses his previous work on the war. Wood Gray's *Hidden Civil War* (Viking) and G. F. Milton's *Abraham Lincoln and the Fifth Column* (Vanguard) examine

treason behind the lines. Other works include *Louisiana in the Confederacy* by J. D. Bragg (Louisiana State), *Louisiana Redeemed* by G. W. McGinty (Pelican), C. F. Dunham's *Attitude of the Northern Clergy toward the South 1860-1865* (Gray), and F. H. Heck's *Civil War Veteran in Minnesota Life and Politics* (Mississippi Valley).

#### LOCAL HISTORY

John Coolidge's *Mill and Mansion* (Columbia) is an interesting study of architecture and society in Lowell before the Civil War. Charles Hirschfeld's *Baltimore 1870-1900* (Johns Hopkins) and A. M. Bondurant's *Poe's Richmond* (Garrett & Massie) deal with the social life of those cities. L. H. Coburn's *Skowhegan on the Kennebec* (Independent Reporter), *New Hampshire Borns a Town* by M. N. Rawson (Dutton), Harold Sinclair's *Port of New Orleans* (Doubleday, Doran), *Brooklyn's Eastern District* by E. L. Armbruster (Author), and *St. Louis as a Fortified Town* by J. B. Musick (Author) are other works in this field.

#### THE OTHER AMERICAS

Bruce Hutchison's *Unknown Country* (Coward-McCann) and A. L. Burt's *Short History of Canada for Americans* (Minnesota) are brief surveys of the Dominion. D. G. Munro's *Latin American Republics* (Appleton-Century), *Latin America* by W. L. Schurz (Dutton), and *Builders of Latin America* by Watt Stewart and H. F. Peterson (Harper) offer general surveys from various points of view. A. P. Whitaker's *Latin America and the Enlightenment* (Appleton-Century) is a study in ideas. C. W. Hackett's *Revolt of the Pueblo Indians* (New Mexico), J. M. Espinosa's *Crusaders of the Rio Grande* (Institute of Jesuit History), and *Men of Mexico* by J. A. Magner (Bruce) concern Mexico. Works on special regions are *Argentina* by J. W. White (Viking); *From Barter to Slavery*, the economic history of Brazil in the sixteenth century, by Alexander Marchant (Johns Hop-



kins); W. A. Roberts' *French in the West Indies* (Bobbs-Merrill); and *Hispanic American Essays*, edited by A. C. Wilgus, (North Carolina).

#### ANCIENT AND MEDIEVAL HISTORY

No outstanding works appeared in this field in 1942. Carl Stephenson's *Medieval Feudalism* (Cornell) is a suggestive reinterpretation, but other publications were scattered and technical. H. E. Winlock's *Excavations at Deir El Bahri* (Macmillan) is a specialized, and *When Egypt Ruled the World* by George Steindorff and K. C. Seele (Chicago), a general summary of recent investigations in Egyptology. A. W. Person's *Religion of Greece in Prehistoric Times* (California), *What Democracy Meant to the Greeks* by W. R. Agard (North Carolina), John Day's *Economic History of Athens under Roman Domination* (Columbia), and C. E. Smith's *Tiberius and the Roman Empire* (Louisiana State) are other works in this area.

#### CONTINENTAL EUROPE

*A Generation of Materialism* by C. J. H. Hayes (Harper) is a social history of the last three decades of the nineteenth century, focused primarily on the development of nationalism. J. J. Spengler's *French Predecessors of Malthus* (Duke), J. S. Curtiss' *Appraisal of the Protocols of Zion* (Columbia), and Otto Zoff's *Huguenots* (L. B. Fischer) contribute to the literature of intellectual history. The diplomacy of the last century and a half is the subject of *Cardinal Consalvi and Anglo-Papal Relations 1814-1824* (Catholic) by J. T. Ellis, *Hungary at the Paris Peace Conference* by Francis Deak (Columbia), and D. E. Lee's *Ten Years, the World on the Way to War 1930-40* (Houghton, Mifflin). Alexander Werth's *Twilight of France* (Harper); *Flight in Winter* by J. C. Adams (Princeton), a study of the Serbian army in the first World War; R. J. Kerner's *Urge to the Sea, the Course of Russian History* (California); A. J. P. Taylor's *Hapsburg Monarchy, 1815-1918* (Mac-

millan), Anicetas Simutis' *Economic Reconstruction of Lithuania* (Columbia), and *Albania's Road to Freedom* by Vandelum Robinson (Norton) deal with individual countries.

#### GREAT BRITAIN AND THE EMPIRE

P. W. Buck's *Politics of Mercantilism* (Holt) and Joseph Chamberlain and the *Theory of Imperialism* by W. L. Strauss (American Council on Public Affairs) analyze some of the forces in British expansion in the eighteenth and nineteenth centuries. J. A. Williamson's *Ocean in English History* (Oxford) is a narrative of the early voyages. *Zones of International Friction* by L. H. Gipson (Knopf) discusses imperial problems in America, India, and the East Indies; and G. H. Guttridge's *English Whiggism and the American Revolution* (California), Stetson Conn's *Gibraltar in British Diplomacy in the Eighteenth Century* (Yale), and Tom Ireland's *Ireland Past and Present* (Putnam) touch on other phases of British colonialism.

Louis Kronenberger's *Kings and Desperate Men* (Knopf) pictures life in eighteenth century England; and L. C. Jones' lively monograph on *The Clubs of the Georgian Rakes* (Columbia) portrays an interesting aspect of the same period. Other social and intellectual histories are *Vauxhall Gardens* by J. G. Southworth (Columbia) and William Gaunt's *Pre-Raphaelite Tragedy* (Harcourt, Brace) Volume IV of James MacKinnon's *History of Modern Liberty* (Longmans, Green) deals with the struggle against the Stuarts, 1647-1689; and J. H. Robb's *Primrose League* (Columbia) is a carefully prepared monograph.

#### ASIA AND AFRICA

Mabel V. Jackson's *European Powers and Southeast Africa* (Longmans, Green) covers the years from 1796 to 1856. F. Yeats-Brown's *Pageant of India* (Macrae-Smith) is a brief survey. J. R. Hayden's *Philippines* (Macmillan) and Albert Hyma's



*Dutch in the Far East* (George Wahr) are scholarly investigations of colonial development in the western Pacific. *The Origin of Manchu Rule in China* (Johns Hopkins) by Franz Michael, *Missionary and Mandarin* by A. H. Rowbotham (California), and Lin Mousheng's *Men and Ideas* (Day) are studies in the history and ideas of China. Kate L. Mitchell's *Industrialization of the Western Pacific* (Institute of Pacific Relations), *Behind the Face of Japan* by Upton Close (Appleton-Century), and Harold S. Quigley's *Far Eastern War 1937-1941* (World Peace Foundation) concern areas particularly important in the light of recent events.

## WAR BOOKS

BY ELIZABETH T. PLATT

LIBRARIAN, AMERICAN GEOGRAPHICAL SOCIETY

### THE PACIFIC AREA

The fighting in the Pacific resulted in some of the most graphic reporting that the Second World War has yet produced. W. L. White, who earlier wrote of his English experiences in *Journey for Margaret* (1941), told the story of Bataan and the heroic work of Bulkeley, Kelly, Cox, and Akers in manning the P T boats in the Pacific in *They Were Expendable* (Harcourt, Brace), the first war book to be designated as a "War Book Panel Imperative." Another story of heroism is *The Raft* (Holt) by Robert Trumbull, the tale of 34 days which three men spent on a 4 x 8 foot rubber raft adrift in the Pacific. *The Flying Guns* (Scribners) by C. E. Dickinson, in collaboration with Boyden Sparks, is "a Cockpit Record of a Naval Pilot from Pearl Harbor through Midway." Stanley Johnston's *Queen of the Flat Tops* (Dutton) is a first hand account of the sinking of the U. S. S. *Lexington* and the Coral Sea Battle. *Torpedo Junction* (Bobbs, Merrill) by R. J. Casey, *Chicago Daily News* correspondent, is an eyewitness account of the U. S. Navy in the Pacific from January to June, 1942. In the month before the attack on Pearl Harbor, Hallett Abend, Far Eastern correspondent of *The New York Times*, made a trip to the Philippines, Hawaii, New Zealand, and the East Indies, which he described in *Ramparts of the Pacific* (Doubleday, Doran).

### FAR EAST

With 23 years background as correspondent of the *London Times* and *The New York Times*, Hugh Byas in *Government by Assassination* (Knopf) appraises the situation in Japan as he saw it. *Report from Tokyo* is Joseph E. Grew's "Message to the American People" based on ten years experience as ambassador to Japan. Chiang Kai-Shek's personal pilot, Royal Leonard, tells of his adventures in *I Flew for China* (Doubleday, Doran), and the story of the men who helped to keep the Burma Road open is to be found in Russell Whelan's *The Flying Tigers* (Viking). An eyewitness of the fall of Hong Kong, J. H. Marsman, reports his story in *I Escaped from Hong Kong* (Reynal & Hitchcock). Of South Eastern Asia also is E. H. Miller's *Strategy at Singapore* (Macmillan).

### MIDDLE EAST

In *Oil, Blood and Sand* (Appleton, Century) R. L. Baker discusses the Middle East in its political, economic, and military aspects. *Nor Any Victory* (Reynal & Hitchcock) by Ray Brock, *The New York Times* correspondent, deals with the Balkan campaign, Yugo-Slavia, Iran, and Egypt from the outbreak of the war. Alan Moorehead's *Mediterranean Front* (Whittlesey) is an eyewitness account of fighting in Libya, Ethiopia, Greece, Crete, and Syria. A. A. Michie (*Time, Life, and Fortune*

## WAR BOOKS

correspondent) in *Retreat to Victory* (Alliance Book Corp.) gives a history of the campaigns of the war with emphasis on the Middle East.

### AFRICA

*Behind Both Lines* (Viking) is the vivid account by *The New York Times'* correspondent, Harold Denny, of warfare in the Libyan desert and of his capture by Rommel and subsequent imprisonment. Also of the struggle in North Africa is *Desert War* (Knopf) by Russell Hill, correspondent of the *New York Herald-Tribune*. Ben Burman's *Miracle on the Congo: Report from the Free French Front* (Day) is in part a revision and in part an enlargement of the author's material cabled to American newspapers. The reports center around Brazzaville and are recitals of adventure in jungle and desert on the way to Syria and Transjordan. The impressions of *Collier's* correspondent, Frank Gervasi, of the war zones in Africa and Asia are to be found in *War Has Seven Faces* (Doubleday, Doran).

### GERMANY

Germany and Russia have both been subjects of a highly varied war literature. For 14 years L. P. Lochner was chief of the Associated Press in Berlin and he has given an account of the situation in *What About Germany* (Dodd, Mead). Also representing years of experience is Frederick Oechsner, Central European manager of the United Press, who, with four other U.P. correspondents, wrote *This is the Enemy* (Little, Brown). *Assignment to Berlin* (Knopf) is by H. W. Flannery, successor to William Shirer in Berlin. H. K. Smith in *Last Train from Berlin* (Knopf) gives an analysis of the factors of Germany's strength. The Berlin and London correspondents of *Time* compare notes in *Conversation in London* (Morrow) by Stephen Laird and Walter Graebner.

### RUSSIA

*Moscow War Diary* (Knopf) is Alexander Werth's (Paris correspon-

dent of the *Manchester Guardian*) account of the Russian people's reaction to the war. Information on Russia's army and a summary of Russian military history has been prepared by S. N. Kournakoff in *Russia's Fighting Forces* (Duell, Sloan, & Pearce). *Russians Don't Surrender* (Dutton) is a diary of the Russian journalist and soldier, Alexander Poliakov. Margaret Bourke-White and her husband, Erskine Caldwell, have both produced accounts of wartime Russia, the former in *Shooting the Russian War* (Simon and Schuster), the latter in *All Out on the Road to Smolensk* (Duell, Sloan, & Pearce). Also the report of a foreign correspondent is Wallace Carroll's *We're in This with Russia* (Houghton, Mifflin). A first hand account of the convoy around North Cape and through the Barents Sea to Murmansk is to be found in Robert Carse's *There go the Ships* (Morrow).

### FRANCE AND ELSEWHERE IN EUROPE

*Time Runs Out* (Doubleday, Doran) by H. J. Taylor is an American business man's report of a rapid tour of Europe just before the attack on Pearl Harbor. Life in occupied France is described by Associated Press correspondent R. P. Porter in *Uncensored France* (Dial), and Elliot Paul has written of the last days of free France in *The Last Time I saw Paris* (Random House). Robert Saint John, N. B. C. commentator, describes the attack of Germany on Yugoslavia and his escape from the invaded country in *From the Land of Silent People* (Doubleday, Doran). Also of southeastern Europe is Derek Patmore's *Balkan Correspondent* (Harper).

### THE WAR IN GENERAL

Max Werner (pseud.) has written a sequel to his *Military Strength of the Powers* (1939) and the *Battle for the World* (1940) in *The Great Offensive: The Strategy of Coalition Warfare* (Viking). An analysis of all fronts by trained observers is contained in *Free Men Are Fighting: The Story of*

## XXV. LITERATURE AND LANGUAGE

*World War II* by Oliver Gramling and correspondents of the Associated Press around the world (Farrar and Rinehart). The experiences of Cecil Brown, commentator for C. B. S., are to be found in *Suez to Singapore* (Random House). E. W. Beattie, Jr., U. P. correspondent, writes of China, Finland, Poland, and the Far East in *Freely to Pass* (Crowell). In *Action on All Fronts* (Harper) Ralph Ingersoll reports on a trip around the world in 1940. Quentin Reynolds has told of his experiences in England, Russia, and Libya in *Only the Stars*

*are Neutral* (Random House). *Yankee Fighter* is J. F. Halsey's account of far-flung campaigns, as told to J. F. Dineen (Little, Brown). A record of the events between the fall of France and of Pearl Harbor has been prepared by E. K. Lindley and Forrest Davis in *American White Paper: How War Came* (Simon & Schuster).

A useful survey of books on international affairs and in which many of the recent war books are mentioned is that of R. G. Woolbert, published in each issue of the quarterly, *Foreign Affairs*.

## BIOGRAPHY

BY MALCOLM O. YOUNG

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### GENERAL

The number of biographical works during 1942 decreased but in proportion to the decrease in book production as a whole. In the first 11 months, 497 titles appeared in this class, compared with 562 in the same period in 1941. The year's product contains few of outstanding merit but a few will qualify as of lasting value. A tendency noted previously but which is more apparent than ever before is the number of biographical and, perhaps more often, autobiographical works with subjects of little or no fame. These are often written in an informal, perhaps partly amusing manner, seldom portraying persons of accomplishments of historical import, but definitely adding to the panorama of American manners, customs, and thought of past or present times.

To those interested in the literature of biography, one can recommend a series of articles by G. P. Gooch in the *Contemporary Review*, November 1941 through June 1942, surveying in detail political autobiographies. It should also be noted that the Pulitzer Prize in Biography, awarded in May, was for the late Forrest Wilson's *Crusader in Crinoline* (Long-

man's), a successful life of Harriet Beecher Stowe.

### COLLECTIVE WORKS

The list of collective works contains some of unusual value; e.g. Douglas S. Freeman's *Lee's Lieutenants* (Scribner) of which the first volume appeared this year, covering from Manassas to Malvern Hill. Another book, written at the suggestion of the Treasury Department to furnish us inspiration in time of crisis, is *There Were Giants in the Land* (Farrar), made up of 28 essays about American men and women, written by as many different authors. Max Eastman's *Heroes I Have Known* (Simon and Schuster) includes such varied subjects as Anatole France, Freud, John Reed, Isadora Duncan, Charles Chaplin, Debs. "Hendrik W. Van Loon's *Lives* (Simon and Schuster) in his 40 sketches of men and women of achievement includes George Washington, Plato, Queen Elizabeth, Confucius. *Post Biographies of Famous Journalists* (Univ. of Georgia Press) edited by John Drewry, includes 20 sketches of past and present newspapermen. Two books of reference value are *Notable Women of Pennsylvania* (Univ. of Pennsyl-

## BIOGRAPHY

vania Press) edited by Gertrude B. Biddle, and *The Book of Modern Composers* (Knopf), edited by David Ewen. Stephen P. Mizwa's *Great Men and Women of Poland* (Macmillan) received more than usual notice. Another opportune book is *Builders of Latin America* (Harper) by Watt Stewart and Harold F. Peterson. Boies Penrose's *Urbane Travelers, 1591-1635* (Univ. of Pennsylvania Press) consists of sketches of seven early British travelers. Continuing their series of similar books, Henry Thomas and Dana Lee Thomas have compiled *Living Biographies of Religious Leaders and Living Biographies of American Statesmen* (Garden City).

### THE PRESIDENTS

*The Naval Genius of George Washington* (Houghton, Mifflin) by Dudley W. Knox deals with a phase about which little had previously been written. *Thomas Jefferson, World Citizen* (Modern Age) is a review by Elbert D. Thomas. Saul K. Padover's *Jefferson* (Harcourt) is a well written biography, presenting no new material but rating high among the several recent works on the subject. There should be included also *Jefferson Himself* (Houghton, Mifflin), edited by Bernard Mayo, a record of Jefferson's life from his own writings. As usual the Lincoln list grows. *Lincoln Among his Friends* (Caxton) is a collection of reminiscences assembled by Rufus R. Wilson. *They Knew Lincoln* (Dutton) by John E. Washington, a Negro, is a collection of memories of Lincoln by Negroes who knew the President personally. *Lincoln: His Life in Photographs* (Duell) is compiled by Stefan Lorant. *Grant of Appomattox* (Bobbs Merrill) deals largely with the Civil War period. Including sections on two Presidents, Karl Schriftgiesser's *The Amazing Roosevelt Family* (Funk) is a valuable and detailed picture of seven generations.

### MEN OF PUBLIC LIFE AND THE LAW

A little known figure leads this section: *Robert Alexander, Maryland*

*Loyalist* (Putnam) is by Janet B. Johnson. Louis N. Koontz' *Robert Dinwiddie* (A. H. Clark) tells of a career in colonial government and westward expansion. Contemporary was Charles Carroll of Carrollton whose new life is by Ellen H. Smith (Harvard). *Mr. Rutledge of South Carolina* (Duell) by Richard Barry, concerns John Rutledge, Revolutionary period jurist and statesman. *Richard Rush, Republican Diplomat, 1780-1859* (Univ. of Pennsylvania Press) is by J. H. Powell. There are biographies of two frontier politicians: Joseph Lane, by Sister M. Margaret Jean Kelly (Catholic Univ. Press), and Charles Edward Pickett, by Lawrence C. Powell (Univ. of California Press). The ante-bellum days of Simon Cameron are recorded in a biography by Lee F. Crippin (Mississippi Valley Press). Later in time came the pioneer statesman who founded Arbor Day, J. Sterling Morton, and his biography is by James C. Olsen (Univ. of Nebraska Press). *John G. Johnson, 1841-1917* (Univ. of Pennsylvania Press) concerns the Philadelphia lawyer and art collector. Significant for subject and author is *Mr. Justice Holmes* (Scribner) by Attorney General Francis Biddle. *City Lawyer* (Simon and Schuster) is the autobiography of the lawyer and reformer, Arthur G. Hays. Timely is the well done biography of Cordell Hull by Harold B. Hinton (Doubleday).

### MILITARY FIGURES

General Vallejo of old California has a biographer in Harry D. Hubbard (Meador). The defender of Vicksburg, Gen. John C. Pemberton, is the central portrait in a work by John C. Pemberton (Univ. of North Carolina Press). *Morgan and his Raiders* (Macmillan) is the story of the Confederate general by Cecil F. Holland. A more opportune book could not be found than *Billy Mitchell: Founder of our Air Force and Prophet without Honor* (Dutton) by Emile Gauvreau and Lester Cohen. Also valuable is *Admiral Sims and the Modern American Navy* (Hough-



ton, Mifflin) by Elting E. Morison. Among the first in what will be a long list of Second World War chronicles are *Yankee Fighter* (Little), the self-story of a fighter with the Free French, Lieut. John F. Hasey; and Francis W. Miller's life of General Douglas MacArthur (Winston).

#### MEN OF THE FRONTIER

For some years previous to 1817, Alaska was under the virtual rule of Aleksander Baranov. The picture of the man and period is Hector Chevigny's *Lord of Alaska* (Viking). Modern Alaska is the scene of Charles D. Brower's *Fifty Years Below Zero* (Dodd, Mead). Rockwell D. Hunt's *John Bidwell, Prince of California Pioneers* (Caxton) presents a versatile figure, explorer, surveyor, miner, agriculturist, civic leader. *Border Boss* (Naylor, San Antonio) by Jack Martin, portrays the Texas ranger, Captain John R. Hughes. *Bigfoot Wallace* (Houghton, Mifflin) by Stanley Vestal gives us another colorful character in the pre-Civil War days of Texas. Robert A. Hereford's *Old Man River* (Caxton) is the memoirs of Captain Louis Rosché, pioneer steamboatman. The autobiography of a cowboy and Indian scout is *Longhorn Cowboy* (Putnam) by James H. Cook. In the new Range Life Series edited by J. Frank Dobie appears *My Rambles as East Texas Cowboy, Hunter, Tie-cutter* by Solomon A. Wright (Texas Folklore Society). An exciting period is recalled by Carl C. Rister in his *Land Hunger: David L. Payne and the Oklahoma Boomers* (Univ. of Oklahoma Press). This group includes four interesting pictures of pioneer life written by women: Nelle P. Davis' *Stump Ranch Pioneer* (Dodd, Mead) set in Idaho; Helena Huntington Smith's *A Bride Goes West* (Farrar) in earlier Montana; Hughie Call's *Golden Fleece* (Houghton, Mifflin), memoirs of a Montana sheep rancher's wife; Nancy Mae Anderson's *Swede Homestead* (Caxton), also in the Northwest. This section concludes with *Sun Chief* (Yale Univ. Press), the autobiography of a Hopi Indian; and *Crazy Horse*

(Knopf), a vivid Sioux biography.

#### INDUSTRIALISTS

Wheaton J. Lane's *Commodore Vanderbilt* (Knopf) was reviewed as of high quality. *Iron Pioneer: Henry W. Oliver, 1840-1904* (Dutton) is by Henry O. Evans. *DuPont: One Hundred and Fifty Years* (Scribner) is a chronicle of a family and business. *Tobacco Tycoon* (Random) by John K. Winkler is, of course, the life of James Duke. *Continuous Performance* (Putnam) is the story of the pioneer of the moving picture industry, A. J. Blaban, as told to his wife. *My Life in Industrial Relations* (Harper) is by Clarence J. Hicks. *The Happiest Man* (Putnam) is the life of Louis Borgenicht, a Galician who became an American industrialist, as told to Harold Friedman.

#### SCIENTISTS AND INVENTORS

The early American botanist, John Torrey, is the subject of a book by Andrew D. Rodgers (Princeton Univ. Press). Florence Naile's *The Life of Langstroth* (Cornell Univ. Press) reveals the master of bee culture. One of great influence in mathematics and physics and their implications, Willard Gibbs, is portrayed in a needed book by Muriel Rukeyser (Doubleday). *Edward Sylvester Morse* (Harvard Univ. Press) is the delightful life and letters of the interesting scientist. The inventor of stainless steel, Harry Brearley, has compiled his autobiography (Longmans), as has the chemist, Otto Eisenschiml, who has entitled his *Without Fame* (Alliance).

#### MEDICAL MEN

John B. Langstaff's biography *Dr. Bard of Hyde Park* (Dutton) is of a physician of Revolutionary times. Others in this group are of recent or contemporary times. *An Old Doctor of the New School* (Caxton) is the autobiography of James C. Wood, a doctor of the homeopathic school. George W. Vandergrift's vivid picture of his father, a New York City and Maryland doctor, is entitled *Castor Oil and Quinine* (Dutton). Another biography of informal type is *The*

*Time of my Life* (Lippincott) by Harry Carlos De Vighne, former Health Commissioner of Alaska. Another member of the Johns Hopkins medical faculty has compiled his memoirs: *Time and the Physician* (Putnam) by Dr. Llewellys Barker. Howard C. Robbins and George K. MacNaught's *Dr. Rudolf Bolling Teusler* (Scribner) has Japan for its setting.

## AUTHORS AND JOURNALISTS

A new interpretation of Thomas Paine is by J. M. Connell (Longmans). A critical biography of the Virginia writer, Philip Pendleton Cooke, is by John D. Allen (Univ. of North Carolina Press). The early 19th century editor and public figure, Robert Walsh, is described in a book by M. F. Lochemes (American Irish Historical Society). Emerson's friend, the poet and mystic, Jones Very, is restored to us by William I. Bartlett (Duke Univ. Press). An excellent work is Mason Wade's analysis of Francis Parkman and his historical writings (Viking). A second recent biography of Margaret Fuller has appeared, this one by Madeleine B. Stern (Dutton), and another portrayal of Walt Whitman is by Hugh Fausset (Yale Univ. Press), both well received. *A Balcony in Charleston* (Garrett and Masie) by Mary S. Saint-Armand is concerned with the writer, Caroline Gilman. *James Russell Lowell* (Vanderbilt Univ. Press) is a careful work by Richmond C. Beatty. *The Man Who Made the News* (Duell) by Oliver Carlson, is the readable life of the senior James Gordon Bennett. Largely critical is Ernest Marchand's *Frank Norris* (Stanford Univ. Press). *Memoirs of an Epicurean* (Bobbs Merrill) is a self portrait by the biographer Henry Dwight Sedgwick. A group of autobiographies are *Sherwood Anderson's Memoirs* (Harcourt); *Wide Margins* (Harcourt) by George Palmer Putnam; Will Irwin's *The Making of a Reporter* (Putnam); *The Autobiography of a Durable Sinner* (Putnam) by Owen P. White. In the same form is the book by the new American.

Conrad Bercovici, *It is the Gypsy in Me* (Prentice-Hall), and also the repatriated Julian Green's *Memories of Happy Days* (Harper).

## ARTISTS

A contribution to the history of American culture is Roger H. Newton's *Town and Davis, Architects* (Columbia Univ. Press), covering the years 1812-1870. The early landscape painter, William Keith, is the subject of Brother Cornelius' *Keith, Old Master of California* (Putnam). The composer, Horatio Parker, is presented by Isabel Semler and Pierson Underwood (Putnam). *Angel Mo' and her Son, Roland Hayes* (Little, Brown) is a semi-autobiographical work of the negro singer and his mother, as written by Helen MacKinley. The actress, Ilka Chase, entitles her informal self portrait *Past Imperfect* (Doubleday). Short sketches of the respective artists are found in the American Artists Series (Crown), containing attractive volumes on George Bellows, Thomas Eakins, Winslow Home, Whistler. Including reproductions of many of his works is *John Mix Stanley and his Indian Paintings* (Univ. of Michigan Press) by W. Vernon Kinietz.

## RELIGIOUS AND EDUCATIONAL LEADERS

In the excellent series *Pennsylvania Lives* has appeared the life of the 18th century mystic Johan Conrad Beissel (Univ. of Pennsylvania Press) by Walter C. Klein. *John Woolman, American Quaker* (Little, Brown) deals with the famous 18th century figure, and *Stephen Grellet* (Macmillan) by William W. Comfort, presents another Quaker minister and missionary, born in 1773. Quite different is *The Reed and the Rock* (Longmans) by Theodore Maynard, concerning the pioneer bishop, Simon Brute. In *Nathaniel William Taylor, 1786-1856, A Connecticut Liberal* (Univ. of Chicago Press), Sidney E. Mead presents a figure concerned in the religious controversies of his day. *Mother Mary Aloysia Harder* (Sheed) is by Margaret Williams.

In this group may be placed the two biographies of the picturesque humanitarian Henry Bergh: *Friend of Animals* (Scribner) by Mildred M. Pace, and *Angel in Top Hat* (Harper) by Zulma Steele.

*Henrietta Szold* (Viking) is a life of the Zionist movement leader, and Abraham A. Neuman has written a life of the Jewish leader, Cyrus Adler (American Jewish Committee). Walter Rauschenbusch, liberal clergyman and writer, is presented by D. R. Sharper (Macmillan). A leader in good government movement, Richard Welling, has written his autobiography (Putnam). *My Father in China* (Farrar) by James Burke gives a fascinating picture of a great missionary. Charles E. Cunningham's *Timothy Dwight, 1752-1817* (Macmillan) is a picture of the Yale president, patriot, and man of letters. The autobiography of the well known teacher of classics at Stanford University, Henry Rushton Fairclough, has the attractive title *Warming Both Hands* (Stanford Univ. Press). The University professor and sociologist, Charles Horton Cooley, is studied by Edward C. Jandy (Dryden).

#### MISCELLANEOUS SUBJECTS

One of the best reviewed books of the year was Esther Forbes' *Paul Revere and the World He Lived in* (Houghton, Mifflin). James B. Connolly quite properly entitled his narrative of Capt. Robert Forbes *Canton Captain* (Doubleday). Donald B. Chidsey has presented in *John the Great* (Doubleday) the heavyweight champion, John L. Sullivan. Zora Neale Hurston, Negro anthropologist and writer, presents her memoirs in *Dust Tracks on a Road* (Lippincott). In *No Day of Triumph* (Harper) J. Saunders Redding also gives us a negro's autobiography, introducing much that reveals the problems of the race.

A group of very informal and agreeable family pictures follow: Philip Goodman's *Franklin Street* is an autobiographical volume centered on a Philadelphia Jewish family of the '90's and early 1900's. *Sunday*

*Best* (Farrar) by John Cecil Holm delightfully portrays himself and his family in the same city in the earlier 1900's. Agnes Rothery's *Family Album* (Dodd, Mead) is laid in Massachusetts, while Rebecca Y. Williams' *Carry me Back* (Dutton) presents her reminiscences of Richmond, Va. Herbert E. French entitles his pleasing character sketch *My Yankee Mother* (Vanguard).

Hartzell Spence's *Get Thee Behind me* (Whittlesey), and Ladd Haystead's *Preacher's Kid* (Putnam), entertain with their accounts of the boyhoods of ministers' sons. Angus McDonald's *Old McDonald Had a Farm* (Houghton, Mifflin) is also a well done character sketch of his father, set in Oklahoma. *I Came out of the Eighteenth Century* (Harper) is a volume of memoirs by a Swift authority, John A. Rice, the more valuable portion laid in the South. William Seabrook, author and traveler, presents a frank self-revelation in *No Hiding Place* (Lippincott). Further readable reminiscences of T. R. Ybarra, in *Young Man of Caracas* are in his *Young Man of the World* (Washburn).

#### FOREIGN SUBJECTS

John H. Finley has done a scholarly work in his *Thucydides* (Harvard Univ. Press). *This was Cicero* (Knopf) is a modern interpretation by Henry J. Haskell. An outstanding work is by the authority Samuel E. Morison, *Admiral of the Ocean Sea* (Little, Brown), the "last word" on Columbus. The conquest of Peru is retold in *Brothers of Doom* (Putnam), the story of the four Pizarros, by Hoffman Birney. *No Royal Road* (Univ. of North Carolina) by R. Emmett Taylor recalls the life and times of Luca Pacioli, Renaissance Franciscan and mathematician. E. Wilson Lyon's *The Man who Sold Louisiana* (Univ. of Oklahoma Press) deals, of course, with François Barbe-Marbois.

A well balanced account of the life and works of Victor Hugo is done by Matthew Josephson (Doubleday). A

## TRAVEL

critical work on the French poet is William K. Cornell's *Adolph Rette* (Yale Univ. Press). *Prince Henry of Prussia* (Univ. of Wisconsin Press) is the life of the brother of Frederick the Great by Chester V. Easum. Herta E. Pauli's *Alfred Nobel* (Fischer) has as subtitle *Dynamite King-Architect of Peace*.

The little known political theorist of the 16th century, John Pone, is studied by Winthrop S. Hudson (Univ. of Chicago Press). Another 16th century figure, the poet and soldier George Gascoigne, is treated exhaustively by C. T. Prouty (Columbia Univ. Press). A definitive study is John Bakeless' two-volume work *The Tragical History of Christopher Marlowe* (Harvard Univ. Press). Another critical study is of the Elizabethan writer, George Whet-

stone, by Thomas C. Izard (Columbia Univ. Press). George Keith, the Scottish writer, preacher, and missionary to Maryland about 1700, is the subject of a book by Ethyn W. Kirby (Appleton-Century).

*John Philip Kemble* (Harvard Univ. Press) is Herschal Baker's biography of the English actor-manager. The late biographer, Giles Lytton Strachey, is briefly surveyed in a pamphlet by Cyril Clemens (International Mark Twain Society) with a foreword by André Maurois. *Long Adventure* (Appleton-Century) is the story of Winston Churchill written for youth, but should not be limited to them. Largely a literary analysis is David Daiches' *Virginia Woolf* (New Directions). A critical introduction to James Joyce is written by Harry Levin (New Directions).

## TRAVEL

BY ELIZABETH T. PLATT

LIBRARIAN, AMERICAN GEOGRAPHICAL SOCIETY

The preponderance of the year's travel material deals with the western hemisphere and especially with the United States, if the books produced directly as a result of the war and the foreign news correspondents' accounts are omitted. As the latter are dealt with elsewhere in this volume (see "War Books" p. 848) no mention is made of them here.

### ALASKA

*The Time of my Life: A Frontier Doctor in Alaska* (Lippincott) is H. C. DeVighne's absorbing story of 30 years of rich experience as a general practitioner in Alaska. Also vividly told is the "King of the Arctic's" account of his 57 years spent among the Eskimo in northern Alaska, *Fifty Years Below Zero: A Lifetime of Adventure in the Far North*, by C. D. Brower in collaboration with P. J. Farrelly and Lyman Anson (Dodd, Mead). In *Lord of Alaska: Baranov and the Russian Adventure* (Viking) Hector Chevigny gives a popular ac-

count of the first resident director of the Russian fur trading companies in Alaska, organized by Shelekhov in 1790. Baranov directed the activities of the companies for 28 years. The story of an Alaskan flight is told by Alma Heflin in *Adventure Was the Compass* (Little, Brown).

### CANADA

Richard Finnie's *Canada Moves North* (Macmillan) is an eloquent, authoritative and well-illustrated consideration of the possibilities and prospects of the northern third of Canada, by the author of *Lure of the North. Needle to the North*, by A. C. Twomey in collaboration with Nigel Herrich (Houghton Mifflin) is the story of an expedition in 1938 to the interior of Ungava and to the Belcher Islands to collect birds and mammals for the Carnegie Museum in Pittsburgh. Primarily historical is Stephen Leacock's *Montreal: Seaport and City* (Doubleday, Doran) as is Henry Beston [pseud]: *The St. Law-*



rence (Farrar and Rinehart), one of the series "The Rivers of America." Dorothy Duncan has done a "Portrait of Nova Scotia in *Bluenose* (Harper).

## UNITED STATES

**Rivers of America.**—To the series (see THE AMERICAN YEAR BOOK, 1941, p. 867) The Rivers of America edited by Stephen Vincent Benét and Carl Carmer and published by Farrar and Rinehart there are added the following volumes: *Lower Mississippi*, by Hodding Carter; *The Kentucky*, by T. D. Clark; *The Sangamon*, by Edgar Lee Masters; *The Allegheny*, by Frederick Way, Jr.; *The Wisconsin, River of a Thousand Islands*, by August Derleth; *The Chicago*, by Harry Hansen.

**American Folkways.**—Likewise new volumes in the series American Folkways, edited by Erskine Caldwell (Duell, Sloan & Pearce) (see THE AMERICAN YEAR BOOK, 1941, p. 868) are Jean Thomas, *Blue Ridge Country*; Eric Thane, *High Border Country*; Wallace Stegner, *Mormon Country* and Stetson Kennedy, *Palmetto Country*.

**American Guide Series.**—A new abridged edition of the 1937 *Washington, D. C. A Guide to the Nation's Capital* (Hastings House) has been prepared in the American Guide Series by the Writers' Program of the District of Columbia. Also in the same series is the Writers' Program of Southern California's *Santa Barbara: Guide to the Channel City and Its Environs* (Hastings House).

**Interpretive.**—Margaret Mead has turned her anthropologist's eye away from the Pacific Islands to the United States and published, as the result of extensive travel and observation throughout the country, *And Keep Your Powder Dry* (Morrow). A book of interpreted photographs and with special reference to Hingham, Mass. has been prepared by Eleanor Roosevelt and F. C. MacGregor *This Is America* (Putnam). To his long list of attractive photographic records Samuel Chamberlain has added *Fair Is Our Land* (Hastings House). He has also done the photo-

graphs in G. F. Marlowe's Connecticut study *Old Bay Paths: Their Villages and By Ways and Their Stories* (Hastings House).

**Mountaineering and Other Handbooks.**—*The American Alpine Club's Handbook of American Mountaineering*, edited by Kenneth A. Henderson (Houghton, Mifflin) is an "attempt to provide the American climbers with a practical description of climbing technique and to apply the knowledge of a broad field of climbing experience to American conditions." A handbook of another sort is H. Walter Leavitt's *Katahdin Skylines* (University of Maine). It is a history of the Katahdin Trails and includes a useful series of profiles which show the relative steepness of each trail.

**Town and Regional Chronicles.**—Practical suggestions, with maps and illustrations, of "where to go, what to do and what you will find on the beautiful rivers of New Jersey" are made by James and Margaret Cawley in *Exploring the Little Rivers of New Jersey* (Princeton Univ. Press). *Time and Town: A Provincetown Chronicle* is Mary Heaton Vorse's story of her adopted town. Cornelius Weygandt's *The Plenty of Pennsylvania: Samples of Seven Cultures Persisting from Colonial Days* (Kinsey) is a series of short informal records of certain of the old customs and folkways of the Swedes, British Quakers, Palatines, and Swiss, Scotch-Irish, New Englanders, and Virginians, whose influences are still felt in Pennsylvania.

**Waterways.**—To the literature of the Great Lakes, which is surprisingly limited, Walter Havighurst's *The Long Ships Passing—The Story of the Great Lakes* (Macmillan) is a welcome addition. Of another waterway is Howard Bloomfield: *Sailing to the Sun by Inland Waterway from Long Island to Florida* (Dodd, Mead).

**The South** has sat for its portrait in an unusual number of books. Virginus Dabney, editor of the *Richmond Times-Dispatch*, has written a discussion dealing primarily with the social and political problems of the

South in *Below the Potomac: A Book About the New South* (Appleton-Century). In *Cross Creek* (Scribner) Marjorie Kinnan Rawlings has written delightfully of the country which she has already made famous. To the series on the American Scene in which Erna Ferguson's *Our Southwest*, N. W. Ross's *Farthest Reach*, etc. have appeared, is added Hal Steed's *Georgia, Unfinished State* (Knopf), an informal guide in which the author has not "whitewashed" his native state nor yet stressed its "abnormalities." Harold Sinclair's *The Port of New Orleans* (Doubleday, Doran) is "an account of New Orleans as a city, with especial reference to its importance as an American seaport and its relationship to the rest of the Mississippi Valley." Others dealing with the South are Ben Robertson, *Red Hills and Cotton—An Up Country Memory* (Knopf); Sam Byrd, *Small Town South* (Houghton, Mifflin); K. A. Bickel, *The Mangrove Coast: The Story of the West Coast of Florida* (Coward, McCann).

**Cities.**—To the available city guides and photographic studies there are added C. B. Aniol's *San Antonio* (Hastings House); *Houston: A History and Guide* (Anson Jones) prepared by the Writers' Program of Texas and Ernest Knee's book of photographs on *Santa Fe, New Mexico* (Hastings House).

**The West.**—Turning to the Northwest, there is Archie Binns: *The Roaring Land* (McBride), episodes of Washington's history and settlement by the author of *Light Ship*. In *Cow Country* (Univ. of Oklahoma Press) F. E. Dale has gathered a series of well written essays already published in scattered sources dealing with a locale ranging from Texas to the Dakotas and Montana. The 125th anniversary of Harper and Brothers was marked by the publication of a facsimile of the 1838 edition of Harriet Martineau's *Retrospect of Western Travel* (2 vols.).

#### SOUTH AMERICA

**Air Travel.**—*The Face of South America: An Aerial Traverse* by J. L.

Rich (American Geographical Society) is a panorama of South America illustrated with about 300 aerial photographs. Emphasis is on the physiography of the area.

*The Pan American Highway* is the subject of S. C. Richardson's *Adventure South* (Arnold-Powers) which tells of a trip down the Pan American Highway to Cape Horn and of H. C. Lanks's *By Pan American Highway Through South America* (Appleton-Century), an account with many photographs based on an inspection of the whole route, completed and uncompleted, through South America.

**Brazil.**—Alice R. Hager's *Frontiers by Air, Brazil Takes the Sky Road* (Macmillan) is the story of a 15,000-mile journey by air in Brazil in the summer of 1941. It is illustrated by aerial views. *Brazil in Capitals* (Harper) is Vera Kelsey's description of Rio de Janeiro, capitals of the 20 states, north, south, and inland from Rio, capitals once upon a time, capitals without portfolio. Rose and Bob Brown's latest book is also of Brazil, *Amazing Amazon* (Modern Age Books). The story of pioneer missionaries in Brazil is told by M. L. Moennich in *Pioneering for Christ in Xingu Jungles: Adventure in the Heart of South America* (Zondervan Publishing House, Grand Rapids).

**Peru, Argentina, Venezuela.**—Mary B. Kidder's *No Limits But the Sky* (Harvard Univ. Press) is the "Journal of An Archaeologist's Wife in Peru" and tells of two archaeological trips to Peru, one in 1937 of reconnaissance, the second in 1939 to excavate a single pre-Incaic site. John W. White's *Argentina: The Life Story of a Nation* (Viking) is primarily a history and a survey of current problems of the Argentine based on a background of 25 years spent in Latin America as a news correspondent. It is written to contribute "to better understanding between Argentina and the United States." L. R. Dennison's *Devil Mountain: The Lost World of Venezuela* (Hastings House) is the story of a trip to the top of Mt. Auyantepui,

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Although not strictly a travel book Emil Ludwig's *Mediterranean: Saga of a Sea* (Whittlesey House) must be noted. Peter Gray's *People of Poros* (Whittlesey House) is "a Portrait of a Greek Island Village."

## ASIA

**Arabia and Siberia.**—Zanzibar and Pemba, Mauritius and the Hadhramaut, where as British Political Officer he had excellent opportunity to become acquainted with the lands and their inhabitants, come under the pen of Harold Ingrams in his superbly written *Arabia and the Isles* now published in an American edition (Transatlantic Arts). John Scott's *Behind the Urals: An American Worker in Russia's City of Steel* (Houghton, Mifflin) is a young American's account of the industrial development in Magnitogorsk, western Siberia.

**China.**—*Kwangsi, Land of the Black Banners* (Herder) by Joseph Cuenot is a translation of a Roman Catholic priest's missionary work in China. The story of the missions of another day is to be found in Nicholas Trigault's *The China That Was: China as Discovered by the Jesuits at the Close of the Sixteenth Century*, translated by L. J. Gallagher from the Latin (Bruce). The work was written as an introduction to Matthew Ricci's Diary and describes China as seen by the Jesuits at the close of the sixteenth century. Quite another story is Russell Whelan's account of his aerial campaign over the Burma Road in *The Flying Tiger: The Story of the American Volunteer Group in China* (Viking). Also on China are *Journey into China* (Dutton) by Violet Cressy-Marcks and Routh Harkness: *Pangoan Diary* (Creative Age Press).

**India and Japan.**—K. L. Mitchell: *India Without Fable; A 1942 Survey* (Knopf) emphasizes the Indian political scene. *Behind the Face of Japan* (Appleton-Century) is a revision of Upton Close's work first published in 1935. Also with emphasis on the po-

litical is *Japan Rides the Tiger* (Day) by Willard Price. Helen Mears: *Year of the Wild Boar; An American Woman in Japan* (Lippincott) is an attempt to interpret and understand Japan and the Japanese. *Petticoat Vagabond in Ainu Land and Up and Down Eastern Asia* (Scribner) is an informal account of travel among these primitive peoples.

## OCEANIA AND AUSTRALIA

C. H. Grattan's *Introducing Australia* (Day) is an interesting portrait of Australia or, rather, the Australian, based on three visits in 1927, 1936-1938, and 1940. Ernestine Hill, *Australian Frontier* (Doubleday, Doran) is now available in America. She writes particularly of the sections of Australia remote from the more thickly populated southeastern section. Paul McGuire's *Westward the Course! The New World of Oceania* (Morrow) is a well written account of a journey, on the eve of the present war, in Australia, Netherlands Indies, Malaya, and Oceania. It includes more of the geography, people, and government than the usual travel narrative. Dillon Ripley's *Trail of the Money Bird* (Harper) tells of a bird quest to New Guinea. An anthropological expedition also to New Guinea provided the material delightfully presented in Charis Crockett's *The House in the Rain Forest* (Houghton, Mifflin). As a sociologist Raymond Kennedy's "primary interest" in *The Ageless Indies* (Day) has been in the people of the Indies. It is based on a residence of some years in Indonesia. In *Black Borneo* (Modern Age) Charles C. Miller, who was born in Java, tells of travel to the heart of the island, the Dyak villages and Kajan Valley, and of the resources of the island.

## POLAR

*Greenland* (Doubleday, Doran) by Vilhjalmur Stefansson is a companion volume to his *Iceland*. *Thoughts Through Space* (Creative Age) by Sir Hubert Wilkins and Harold M. Sherman is presented as an example of the efficacy of mental telepathy. G.

## TRAVEL

B. Coale's *North Atlantic Patrol* (Farrar & Rinehart) is "The Log of a Seagoing Artist."

### GENERAL

Mrs. E. E. Hunt has written an informal and informative handbook, *How to Live in the Tropics* (Harcourt, Brace) designed to help a person going to live there for the first time. There are sections on preparation, environment, daily routine, food, etc. *Ambassadors in White: The Story of American Tropical Medicine* (Holt) is C. M. Wilson's history of medical work in Central and South America and the West Indies. Martin Birnbaum's *Vanishing Eden: Wandering in the Tropics* (Rudge) is a profusely illustrated work of travels to Tahiti, Tiji and Samoa, Bali, Yunnan, Guatemala, Nigeria, and the Belgian Congo. *Across a World* (Longmans, Green) by Father J. L. Consadine, in collaboration with Thomas Kernan, stresses the human element and is based on his tours of Catholic mission stations in Asia, Africa, and the Far East.

### HISTORICAL

To the mass of Columbus material comes a welcome addition in the form of S. E. Morrison's *Admiral of the Ocean Sea: A Life of Christopher Columbus* (Little, Brown). Emphasis is on Columbus as a seaman, and Morrison as leader of the Harvard Columbus Expedition has himself followed the routes of Columbus. Prof. C. U. Clark has rendered a service to scholars by making available in translation Antonio Vázques de Espinosa's *Compendium and Description of the West Indies* (Smithsonian Institution). The work is a translation of an early seventeenth century manuscript located by Professor Clark in the Barberini Collec-

tion of the Vatican. *Voyages of the "Columbia" to the Northwest Coast, 1787-1790 and 1790-1793* edited by F. W. Howay (Mass. Historical Society) is four journals [Haswell's First and Second logs, Hoskins' Narrative, and Boit's log] of the first American vessels to sail from New England to the northwest coast to engage in maritime fur trade. Seven wanderers have been selected from their companions for further study by Boies Penrose in his *Urbane Travelers, 1591-1635* (Univ. of Pennsylvania Press). The selected ones are Fynes Moryson, John Cartwright, Thomas Coryate, William Lithgow, George Sandys, Sir Thomas Herbert, and Sir Henry Blount. E. H. Thompson's *Voyages to Vinland* (Knopf) is "The first American Saga" newly translated and interpreted. *The Age of Exploration* (Metropolitan Museum of Art) by M. R. Scherer is a collection of "Pictures of explorers who sought new routes for eastern trade and found the New World on the way."

### BIOGRAPHICAL

Readers who have enjoyed Florence Jaques's *Canoe Country* and *The Geese Fly High* will welcome her account of the experiences which she and her husband have had in pursuit of ornithological knowledge *Birds Across the Sky* (Harper). Ernst Earnest adds to the comparatively slight material available on the Bartrams, father and son in *John and William Bartram: Botanists and Explorers 1699-1777, 1789-1823* (Univ. of Pennsylvania Press). C. E. Cunningham's *Timothy Dwight 1752-1817* (Macmillan) is a biography of the eminent author of *Travels in New England, New York*. It contains a disappointingly scant amount of material on the "Travels."



## CRITICISM AND BELLES LETTRES

By PETER MONRO JACK  
CRITIC AND LECTURER

## CONTEMPORARY LITERATURE

**Kazin.**—Of the many excellent books on American life and literature, Alfred Kazin's *On Native Grounds* (Reynal) was best received. Written by a teacher and well-known reviewer, 27 years old, it showed an astonishing knowledge of the background of American literature, and it is probably the most complete history of the fiction of our times, from Howells through Dreiser to the latest novel. There is an interesting controversy with Van Wyck Brooks, Kazin denying that the later novelists are decadent.

**Geismar.**—An equally important book is *Writers in Crisis* by Maxwell Geismar (Houghton Mifflin), on six representative novelists or storytellers: Ring Lardner, Hemingway, Steinbeck, Dos Passos, Wolfe, Faulkner. A close study is made of each, and the general conclusion is that these writers (with the exception of Faulkner) are becoming more aware of the social responsibilities of a democracy.

**Nuhn.**—In *The Wind Blew From the East* (Harper), Ferner Nuhn begins a series of critical discussions on American culture. Here he is concerned with the expatriates who turned back to European ideas: Henry James, Henry Adams, T. S. Eliot.

## GENERAL LITERATURE

An interesting book on the creative artist comes from Dorothy L. Sayers in *The Mind of the Master*, in part theological, in part psychological (Harcourt). *The English Novel in Transition* is an outline of the ideas that went into the novel between 1885 and 1940, by William C. Friereson (Oklahoma U. P.). *The Pre-Raphaelite Tragedy* is the history of Rossetti and the other writers and

painters of the Victorian period, by William Gaunt (Harcourt).

*The Globe Playhouse* presents Shakespeare's theatre, by John Cranford Adams (Harcourt). Margaret Webster, actress and producer, has written a study of Shakespeare in *Shakespeare Without Tears* (Whittlesey).

*The Gothic Quest* and *A Gothic Bibliography* are further researches by Montague Summers in the realm of terror (Columbia U. P.). *Kings and Desperate People* is a reconstruction of English 18th century life, with much literary information, by Louis Kronenberger (Knopf). M. I. A. Richards attacks Adler's *How to Read A Book* in *How To Read a Page*, with references to his basic English edition of Plato's *The New Republic* (Norton).

## WHITMAN, HAWTHORNE, AND OTHERS

The newest study of Whitman is *Walt Whitman: Poet of Democracy* by Hugh L'Anson Fausset (Yale U. P.) on the dualism of Whitman's nature, a psychoanalytical study. *The English Notebooks of Nathaniel Hawthorne* is edited by Randall Stewart for the Modern Language Association from the originals in the Pierpont Morgan Library. The first full length study of *Frank Norris* is made by Ernest Marchand (Stanford U. P.). *Mark Twain at Work* is Bernard De Votb's fullest account of the papers in his possession, and the best criticism (Harvard U. P.).

## BYRON AND BROWNING

Peter Quennell continues his study of Byron in *Byron in Italy* (Viking). The Brownings are studied in a new way in *As A Flame Springs*, by James Patton McCormick (Scribner's). *Dorothy Wordsworth's Journals* are edited, almost completely, by E. De

Selincourt (Macmillan). The story of Swift and Stella is told in *Stella: A Gentlewoman of the Eighteenth Century*, by Herbert Davis (Macmillan). Matthew Josephson's latest study of French writers (Rousseau, Zola) is *Victor Hugo* (Doubleday).

#### LITERARY ESSAYS

Mark Van Doren has collected his essays, book reviews, and notes on the cinema in *The Private Reader*, including studies of Whitman, Dickinson, Frost, Eliot, and many others (Holt). Mr. Van Doren says this is his last book of criticism. Virginia Woolf's posthumous essays are published in *The Death of the Moth* (Harcourt). E. M. Forster published at the same time his lecture, *Virginia Woolf* (Harcourt). James Norman Hall (of the "Bounty" series) writes of Ben Jonson, Coleridge, Thoreau, Conrad, and others from his library in Tahiti. He calls his book *Under a Thatched Roof* (Houghton, Mifflin).

George Jean Nathan writes of his aversion to the sociological theatre in *The Entertainment of a Nation* (Knopf). A book on reading, filled with quotations, is *Living Upstairs*, by Francis Meehan (Dutton). *The Challenge of the Greeks*, by the classical scholar, T. R. Glover, is a reminder of one's cultural heritage (Macmillan). *The Mediterranean*, by Emil Ludwig, is a sort of extended essay on Latin civilization, a translation with illustrations (Whittlesley).

#### PERSONAL ESSAYS

E. B. White collects his pieces from *The New Yorker* and *Harper's Magazine* in *One Man's Meat*, amusing remarks on anything in the world (Harper). Meyer Berger covers New York in his reporting in *The Eight Million* (Simon Schuster). Hilaire Belloc's *Places* is a record of his lifetime travels (Sheed). Hoffmeister, a Czech, writes and draws amusingly in *The Animals Are in the Cages* (Greenberg). James Thurber's dreams and nightmares are in *My World—and Welcome To It* (Harcourt). Robert P. Tristram Coffin writes of their special qualities in his *Book Of*

*Uncles* (Macmillan). David Grayson (Ray Stannard Baker) tells a new chronicle of the joys of living in *Under My Elm* (Doubleday). Aldous Huxley, the English novelist, has written how he virtually cured himself of near blindness in *The Art of Seeing* (Harper).

#### TOPICAL ESSAYS

Nicholas Murray Butler's collection of essays and addresses is published in *Liberty, Equality, Fraternity* (Scribner). Westbrook Pegler, the *World-Telegram* columnist, collects his daily articles in *George Spelvin, American and Fireside Chats* (Scribner). Dorothy Thompson's radio propaganda over short-wave to Germany, is published in *Listen, Hans* (Houghton Mifflin). Prime Minister Churchill's speeches are collected in *The Unrelenting Struggle* (Little, Brown). Essays on democratic figures are introduced by Henry Morgenthau, Jr., in *There Were Giants in The Land* (Farrar & Rinehart).

#### LITERARY REMINISCENCE

*Past Imperfect* is Ilka Chase's amusing and popular account of her acting days (Doubleday). *Our Hearts Were Young and Gay* by Cornelia Otis Skinner and Emily Kimbrough is the record of two girls abroad in the twenties, also very popular (Dodd, Mead).

André Maurois writes his literary autobiography in *I Remember, I Remember* (trans. Harper). T. R. Ybarra continues his autobiography through the First World War in *Young Man Of The World* (Washburn). Siegfried Sassoon, the English war poet, writes more of his memoirs in *The Weald of Youth* (Viking). Klaus Mann writes of his German friends and their fate in *The Turning Point* (Fischer). Arthur Koestler, author of *Darkness At Noon*, writes of his wartime experience in Spain in *Dialogues With Death* (Macmillan). Sigrid Undset tells a personal history of the invasion of Norway in *Return to the Future* (Knopf).

*This Great Journey* is Jennie Lee's story of herself and her fight for

socialism (Farrar & Rinehart). *City Lawyer* is Arthur Garfield Hays' account of himself as a literary liberal (Simon Schuster). *Bowen's Court* tells the historical background of Elizabeth Bowen, the distinguished Anglo-Irish novelist (Knopf). Sean O'Casey, the Irish playwright, continues his autobiography in *Pictures In The Hallway* (Macmillan). Julian Green, the novelist, was the co-winner of the Harper prize for *Memories of Happy Days*. The other winner was John Andrew Rice for his memory of a boyhood in South Carolina, *I Came Out of the Eighteenth Century* (Harper). William Seabrook looks back on his life in *No Hiding Place* (Lippincott). Zora Hurston tells of the difficulties and success of a negro writer in *Dust Tracks of a Road* (Lippincott).

*Miss Sue and the Sheriff* is the memoirs of a Carolina childhood by Robert Burton House (North Carolina U. P.). *A Bride Goes West* is the Far West of 60 years ago by Nannie T. Alderson and Helena Huntington Smith (Farrar & Rinehart). *West With the Night* is an unusual autobiography, by Beryl Markham, of her African experiences (Houghton Mifflin). *My Father in China* is James Burke's account of a Southern Methodist missionary who had known Soong 60 years ago (Farrar & Rinehart). Will Irwin reports on his life in *The Making of a Reporter* (Putnam).

#### THE ARMY'S BELLES LETTRES

The first popular book (300,000 copies) was *See Here, Private Hargrove*, by Marion Hargrove, discovered and introduced by Maxwell Anderson (Holt). *Private Purkey in Love and War* by H. I. Phillips, the columnist of *The Sun*, was also popular (Harper, with drawings by Alan Dunn, introduction by John Kieran). *The Army Life* by E. J. Kahn, Jr. is also entertaining and more informative, by a first-rate reporter of *The New Yorker* (Simon Schuster). More technical are the educational programs contained in *School of the Citizen Army*, edited by Robert A. Grif-

fin (Appleton) and *Our New Army* by Marshall Andrews (Little, Brown).

#### THE AMERICAN SCENE

**Rivers of America.**—The most successful series of books on the American scene is Farrar and Rinehart's *Rivers of America*. Edgar Lee Masters wrote of *The Sangamon*, illustrated by Lynd Ward; Frederic Way, Jr. wrote of *The Alleghany*, illustrated by Henry C. Pitz; August Derleth wrote about *The Wisconsin*, illustrated by John Stuart Curry.

**America at War, etc.**—*This Is America* by Eleanor Roosevelt and Frances Cook Macgregor (Putnam) contains photographs by Mrs. Macgregor and text by Mrs. Roosevelt. In *The American Scene Series* (Knopf) is Richard G. Lillard's illustrated story of Nevada in *Desert Challenge*. *American Reveille* is Ward Morehouse's essays and sketches of America at war, a travel book (Putnam). *Fair is Our Land* is a book of pictures of America designed and edited by Samuel Camberlain, with an introduction by Donald Moffat (Hastings). *The Family in a World at War* is a symposium (Pearl Buck, Dorothy Canfield Fisher, etc.), edited by Sidonie Matsner Gruenberg (Harper). *Washington is Like That* by W. M. Kiplinger (Harper), an informative guide to the business of government, a best seller by the writer of the *Washington Letter*. *Remaking America* is on the growth of American freedom by a New Dealer, Jay Franklin (Houghton Mifflin).

**Folkways Series.**—*Mormon Country*, in the American Folkways Series, is a fine piece of history by the novelist, Wallace Stegner (Duell). *Palmetto Country* is in the American Folkways Series, by Stetson Kennedy (Duell), the Southern sections of Alabama and Georgia, and all of Florida. *The Blue Ridge Country* is Jean Thomas's contribution to the American Folkways Series, full of folklore (Duell). The Ozarks in the American Folkways series are depicted in *Ozark Country* by Erskine Caldwell (Duell).

**The South.**—*Sailing to the Sun* is by Howard Bloomfield (Dodd, Mead), down to inland waterways in Florida. Sam Byrd, the Broadway actor and producer, revisits the South (North Carolina and Florida) and half reports, half reminiscences in *Small Town South* (Houghton Mifflin). *Carry Me Back* continues Rebecca Yancey Williams' story of the vanishing Virginian in the form of a diary (Dutton). *Virginia is a State of Mind*—folklore, anecdote, gossip about Virginia by Virginia Moore (Dutton). *Cloud-Walking* by Marie Campbell (Farrar & Rinehart) is a pleasant account of a Kentucky mountain community. South Carolina's upcountry is pictured in Ben Robertson's *Red Hills and Cotton*, with memories of hard work and happiness on the farm (Knopf). *The Port of New Orleans* is Harold Sinclair's history of the seaport that has lived under three flags (Doubleday). *Weep No More, My Lady*, by Alvin E. Harlow, is about Kentucky's individuality (McGraw).

**The Southwest.**—George Sessions Perry writes of *Texas*, which he calls a world in itself (Whittlesey). *A History of Oklahoma* by Grant Foreman (Oklahoma U. P.) is an illuminating chapter in the American epic. *Cow Country* is the geography and history of Oklahoma and Texas, by Edward Everett Dale (Oklahoma U. P.).

**The Northwest.**—*Stump Ranch Pioneer* is Nelle Portray Davis' account of pioneering in Northern Idaho (Dodd, Mead). *Golden Fleece* is Montana as remembered by Hughie Call through a quarter of a century (Houghton). *The Long Ships Passing* is the story of the Great Lakes, by Walter Havigshurst (ill., Macmillan).

**The East.**—*The Plenty of Pennsylvania* reviews the various cultures that make up the state's heritage, by Cornelius Weygrandt (Kinsey). *Newport Tower* by Philip Ainsworth Means (Holt) is about the ancient stone tower which is a riddle to antiquarians; Mr. Means believes it to be of Norse origin, originally a church

in medieval times. *Time and the Town* is Mary Heaton Vorse's chronological of Provincetown, with a map (Dial).

**The West.**—*Sierra Outpost* is an account of life at Florence Lake Station (Edison Company's hydroelectric system) in Southern California, by Lila Lofberg (Duell).

**For North and the Pacific.**—*Land of Alaska* by Hector Chevigny is about Baranox, the Russian who made history in the Far North (Viking). *Alaska Under Arms* is Jean Potter's report (Macmillan). Vilhjalm Stefansson's *Greenland*, with photographs and drawings, is a timely and admirably complete picture (Doubleday). *Trail of the Money Bird* is the 30,000 miles of adventures of a naturalist in the Far Pacific, by Dillon Ripley (Harper). *Near Horizons* by Edwin Way Teale (Dodd, Mead) is a naturalist nearer home, on his insect garden, with photographs.

#### AMERICAN PERIOD PIECES

*The Mad Forties* by Grace Adams and Edward Hutter (Harper) tells of the vagaries of the Eastern seaboard, with glimpses of Greeley, Brisbane, Alcott, Emerson, Longfellow, Poe, etc. *Big Foot Wallace* by Stanley Vestal (Houghton Mifflin) is the memories of an old frontiersman of Old Texas. *Rebels and Gentlemen* by Carl and Jessica Bridenbaugh (Reynal & Hitchcock), on the Philadelphia of Franklin. *Lost Chords* chronicles the hit parade of 80 years of American popular songs, by Douglas Gilbert (Doubleday). *Paul Revere and the World He Lived In* is Esther Forbes' very distinguished reconstruction of the Revolutionary period in Boston (Houghton Mifflin). *New Hampshire Borns a Town*, by Marion Nichol Rawson (Dutton), is the history of a town chartered by King George in 1763.

#### THE AMERICAS

*The Epic of Latin-American Literature* by Arturo Torres-Rioseco (Oxford) is a complete and authoritative compilation, from Bernal Diaz of Mexico to the latest regional novel.



## XXV. LITERATURE AND LANGUAGE

*Argentina*, by John M. White, is described as the Life Story of a Nation (Viking). It is well illustrated. *Blue-nose* is a portrait of Nova Scotia by Dorothy Duncan (Harper). *The Pan American Highway Through South America* by Herbert C. Lanks, with photographs, is a 13,000-mile motor tour through all the republics but one (Appleton). *Saddlebags for Suitcases* is the story of crossing Canada on horseback, by Mary Bosanquet, with photographs and maps (Dodd, Mead).

### MISCELLANY

*This is My Best*, over 150 self-chosen and complete masterpieces, together with the reasons for their selection, is edited by Whit Burnett (The Dial). The choice of the authors, however, is the editor's.

*The New Invitation to Learning*, edited by Mark Van Doren, contains

the text of the radio discussions of great books by various authorities: Margaret Webster, Julian Huxley, Rex Stout, Elmer Davis, etc. (Random House).

*Van Loon's Lives* is an essay in "massed biography"—Plato, Theodora, Shakespeare, George Washington, etc.—written and illustrated by Hendrik Willem van Loon (Simon & Schuster). *Horse-Sense in American Humour* ranges from Benjamin Franklin to Ogden Nash, by Walter Blair (Native American Humour, Chicago U. P.). *Treasury of British Humour*, edited by Morris Bishop (Coward-McCann) is the counterpart to E. B. White's *Sub-Treasury of American Humour*.

*The 1941 New York Album* (Random House) was published in 1942. Somerset Maugham introduced *Peter Arno's Cartoon Revue* (Simon Schuster). Helen Hokinson's *My Best Girls* (Dutton) is all comic art.

## ENGLISH LANGUAGE AND LITERATURE

By ALLAN G. CHESTER

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### GENERAL

The present survey of American research in the field covered, like its predecessors, is selective. Many studies concerned with details too technical for the layman are omitted although they are often of considerable importance to the philologist and the literary historian. A complete list of such contributions will be found in the bibliography by A. C. Baugh, M. A. Shaaber, and A. G. Chester in the Supplement to the *Publications of the Modern Language Association (PMLA)*.<sup>1</sup> The reader should also consult Hardin Craig's "Recent Literature of the English Renaissance" (*SP*), Richmond P. Bond's "English Literature, 1660-1800: A Current Bibliography" (*PQ*), Walter Graham's "The Romantic Movement: A Current, Selective and Critical Bibliography" (*ELH*), and the "Victorian Bibliography" (*MP*), compiled by the

Victorian research group of the Modern Language Association, all of which except the first include foreign as well as American work. H. K. Russell, "Theses for the Year" (*South Atlantic Bull.*) lists M.A. and Ph.D. theses, published and unpublished, in English and the modern languages.

### THE ENGLISH LANGUAGE

Among the more general studies in

<sup>1</sup>Periodicals are cited under the following abbreviations, the reference being always to the volume for the year covered by this review: —PMLA, *Publications of the Modern Language Association of America*; MP, *Modern Philology*; MLN, *Modern Language Notes*; MLR, *Modern Language Review*; JEGP, *Journal of English and German Philology*; SP, *Studies in Philology*; PQ, *Philological Quarterly*; RES, *Review of English Studies*; ELH, *English Literary History*; HLQ, *Huntington Library Quarterly*; SAB, *Shakespeare Association Bulletin*; RR, *Romanic Review*; MLQ, *Modern Language Quarterly*; JHI, *Journal of the History of Ideas*. Titles appearing as theses or in the publications of universities are followed where possible by the name of the university.

this field may be mentioned Rudolf Carnap's *Introduction to Semantics*, which is announced as the first volume of a series of studies in semantics to be published by the Harvard University Press. Margaret Schlauch's *The Gift of Tongues* is also concerned with language in its more general aspects. For college classes Albert H. Marckwardt has written an *Introduction to the English Language*. In "Some Linguistic Studies of 1939 and 1940" (*MLN*), Kemp Malone has continued his extremely useful survey of the field. Of the specialized studies the most timely is Elbridge Colby's *Army Talk: A Familiar Dictionary of Soldier Speech* (Princeton). Charles B. Brown has studied *The Contribution of Greek to English, with Special Attention to Medical and Other Scientific Terms* (Vanderbilt).

#### GENERAL LITERATURE

Among the studies of the nature and function of literature the following may be noted: *The Bases of Artistic Creation* (Rutgers), which consists of essays by Maxwell Anderson, Roy Harris, and Rhys Carpenter; Thomas C. Pollock's *The Nature of Literature* (Princeton), which aims to lay a theoretical basis for the study of literature in terms consonant with our contemporary knowledge of language and the development of modern science; Herbert J. Muller's "Scientist and the Man of Letters" (*Yale Rev.*); and Alexander Kern's "The Sociology of Knowledge in the Study of Literature" (*Sewanee Rev.*).

A number of studies concerned primarily with poetry should be noted. In *Types of English Poetry*, John S. Harrison attempts a scientific approach to poetry, based on various organic patterns. *The Language of Poetry* (Princeton), edited by Allen Tate, contains essays by Philip Wheelright, Cleanth Brooks, I. A. Richards, and Wallace Stevens. The noted American poet, Robert P. T. Coffin, has set forth his views on poetry in *The Substance That Is Poetry*. Lillian H. Hornstein's "Analysis of Imagery: a Critique of a Literary Method" (*PMLA*), while primarily a criticism

of Miss Spurgeon's study of Shakespeare, should be of interest to all students of poetry. Three essays in the *University Review* (R. S. Crane's "Two Essays in Practical Criticism," Norman F. Maclean's "An Analysis of a Lyric Poem," and Elder Olson's *Sailing to Byzantium: Prolegomena to a Poetics of the Lyric*) are concerned with demonstrating a critical technique.

Two studies of fiction have been published. Gordon H. Gerould's *The Patterns of English and American Fiction* is a history of English and American fiction from the Middle Ages to the present. A widely divergent approach from Professor Gerould's is made by Sister Mary Gonzaga Udell in *A Theory of Criticism of Fiction in its Moral Aspects according to Thomistic Principles* (Catholic Univ. of America).

Finally in this general section may be noted the following: *A Check List of Courtesy Books in the Newberry Library*, by Virgil B. Heltzell; *The Negro in English Romantic Thought*, by Eva B. Sykes; and *Aristotle and Anglican Religious Thought*, by Victor L. Dowdell (Cornell).

#### OLD ENGLISH

Studies of Anglo-Saxon have dealt almost entirely with Beowulf. Of these the most ambitious is *The Rhythm of Beowulf: An Interpretation of the Normal and Hypermetric Verse-forms in Old English Poetry* (Yale), in which John C. Pope advances a new theory of Old English meter. Kemp Malone, in "Grendel and Grep" (*PMLA*), calls attention to a parallel between the Grendel story and an episode in Saxo-Græmæticus which suggests that the fabulous material in Beowulf may be of Scandinavian origin. On the other hand, "Beowulf and Grendel's Mother: Two Minor Parallels from Folklore" (*MLN*), by L. Whitbread, finds resemblances to the Grendel story in two Polynesian tales. An appreciation of the literary qualities of the poem is to be found in Calvin S. Brown's "On Reading Beowulf" (*Sewanee Rev.*). Apart from studies

of Beowulf, may be mentioned Kemp Malone's "On *Deor* 14-17" (MP), which suggests a translation of a vexed passage.

#### MIDDLE ENGLISH

The year saw a falling off in the number of studies of Middle English literature. S. Harrison Thomson continued his account of the *Progress of Medieval and Renaissance Studies in the United States*, and Prof. John E. Wells published the eighth supplement to his invaluable *Manual of the Writings in Middle English*. A study of "Anglo-Norman Versification in the *Roman de Toute Chevalerie*" was made by Frederick B. Agard (RR). In "Five New Gretham Sermons and the Middle English *Mirur*" (PMLA), Charlton G. Laird describes five Anglo-Norman sermons found in a MS. in the Huntington Library. Roland Blenner-Hassett intensifies "Geoffrey of Monmouth's *Mons Agned* and *Castellum Puellarum*" with Edinburgh Castle (*Speculum*). Ruth J. Dean's "MS. Bodl. 292 and the Canon of Nicholas Trevet's Work" (*ibid.*) describes the MS. and rejects some of the works in it which have been attributed to Trivet.

Two critical editions of important texts may be mentioned. Robert J. Menner has edited *The Poetical Dialogue of Solomon and Saturn* and Grace E. Moore *The Middle English Verse Life of Edward the Confessor* (Univ. of Penn.). Here also may be noted two studies by E. Bagby Atwood—"The Story of Achilles in the *Seege of Troye*" (SP) and "The Judgment of Paris in the *Seege of Troye*" (PMLA). Ruth Crosby's new biography of "Robert Mannyng of Brunne" (PMLA) suggests important additional facts, while George Sanderlin's "*Usk's Testament of Love* and St. Anselm" (*Speculum*) is a study of sources. In "The Structural Development of the South English Legendary" (JEGP) Minnie E. Wells notes parallels between Pepys MS. 2344 and the *Legenda Aurea* and brings forth new considerations concerning the compiler of the collection. From a MS. in Emmanuel College, Cam-

bridge, Ernest W. Talbert has printed for the first time "A Lollard Chronicle of the Papacy" (JEGP), and Laura H. Loomis has discussed "The Auchinleck Manuscript and a Possible London Bookshop of 1330-1340" (PMLA).

The literature of the fifteenth century has given rise to only two studies. James D. Gordon has edited *The Epistle of Othea to Hector: A 'Lytil Bibell' of Knyghthood* (Univ. of Penn.); and Margaret Munsterberg described a copy of Andrew's edition of Caxton's translation of "The Myrrour of the Worlde" (*More Books*).

#### CHAUCEr

Studies of Chaucer during 1942 were largely concerned with matters of detail, although Ruth B. McJimsy's *Chaucer's Irregular-e* and Earle Birney's "Is Chaucer's Irony a Modern Discovery?" (JEGP) are concerned with the broader aspects of Chaucer's art—the former, of course, with metrics, and the latter with Chaucer's critics. In "The Prologue to the Legend of Good Women and the *Lai de Franchise*" (SP) Marion Lossing denies Lowes's contention that the *Lai* is an undoubted source of the *Legend*. Robert P. Roberts has furnished some "Notes on *Troilus and Criseyde*" (MLN).

The most ambitious study of the *Canterbury Tales* is J. Burke Severs's *The Literary Relationships of Chaucer's Clerkes Tale* (Yale), which contains studies of various treatments of the Griselda story and of Chaucer's use of his sources. Other studies of individual tales are Haldeen Braddy's "The Genre of Chaucer's *Squire's Tale*" (JEGP), Dudley R. Johnson's "Homicide" in "the *Parson's Tale*" (PMLA), Sister Mary Immaculate's "Fiends as 'servant unto man' in the *Friar's Tale*" (PQ), and Pauline Aiken's "Vincent of Beauvais and Chaucer's *Monk's Tale*" (*Speculum*). "Author's Revision in the *Canterbury Tales*" is the subject of an interesting paper by the late Prof. Carleton Brown (PMLA), while in "John of Angoulême and His Chaucer Manu-



script" (*Speculum*) Martin M. Crow provides a full account of the original owner of the Paris MS. of the *Canterbury Tales*, with a discussion of the character of the text.

### THE SIXTEENTH CENTURY

**Early Tudor.**—Students of this period will welcome Hoyt Hudson's translation of Erasmus's *Praise of Folly* (Princeton) and Harold R. Willoughby's *The First Authorized English Bible and the Cranmer Preface* (Chicago). Gerald Kernan's "Saint Thomas More, Theologian" (*Thought*) is concerned with More's indebtedness to the fathers in his controversial writings. For the drama of this period we may note Elizabeth M. Nugent's study of "The Sources of John Rastell's *The Nature of the Four Elements*" (PMLA).

**Elizabethan.**—Several general studies of Elizabethan literature have appeared during the year. Boies Penrose's *Urbane Travelers, 1591-1636* (Pennsylvania) re-tells the stories of seven celebrated wanderers. Don C. Allen's *The Star-Crossed Renaissance* (Duke) is a survey of European attitudes toward astrology between 1475 and 1625. William V. O'Connor has made a study of *The New Woman of the Renaissance*. An interesting study in Elizabethan rhetoric is Richard F. Jones's "The Moral Sense of Simplicity" (*Washington Univ. Stud. . . in Lang. and Lit.*). Mark Eccles, in "A Biographical Dictionary of Elizabethan Authors" (*HLQ*), gives an account of the objectives of the proposed dictionary.

In *George Gascoigne, Elizabethan Courtier, Soldier, and Poet* (Columbia), C. T. Prouty has made a study of the life and writings of the chief poet of the young Elizabeth's court. A. D. Wiles's "Parallel Analyses of the Two Versions of Sidney's *Arcadia*" (*SP*) leads to the conclusion that the revised version is artistically superior. In *Fulke Greville's Caelica*, William Frost has attempted an evaluation of the poetry of Sidney's friend and biographer. Edgar H. Duncan's "The Alchemy in Jonson's *Mercury Vindicated*" (*SP*) points out the basis

of various criticisms of the alchemists and calls attention to the wider social satire in the piece. In "Stylistic Devices in Chapman's *Iliads*" (PMLA), Phyllis B. Bartlett analyzes the stylistic adornment with which Chapman exemplified his announced belief that a free translation best renders the true meaning of the original.

During the year there was some reduction in the number of Spenser studies. D. T. Starnes's "E. K.'s Classical Allusions Reconsidered" (*SP*), the same writer's "Spenser and the Graces" (*PQ*), and Viola B. Hubbert's "Diggon Davie" (*JEGP*) are all concerned with the *Shepherds' Calendar*. Josephine W. Bennett, in *The Evolution of the Faerie Queene* (Chicago), approaches the problem of the structure of the poem from the point of view of the actual process of composition. Mrs. Bennett's article on "The Garden of Adonis Revisited" (*JEGP*) should also be mentioned. "The Woman Ruler in Spenser's *Faerie Queene*" (*HLQ*), by James E. Phillips, is an interesting study of the way in which Spenser reflects the typical Calvinist attitude towards female monarchs.

**The Drama.**—An outstanding work on the Elizabethan theater is John C. Adams's *The Globe Playhouse, Its Design and Equipment* (Harvard). In "The First Phase of the Elizabethan Attack on the Stage, 1558-1579" (*HLQ*), William Ringler argues that the attack on the stage began suddenly in 1577 and resulted from changing condition within the theaters themselves. Paul S. Clarkson and Clyde T. Warren have made a detailed study of *The Law of Property in Shakespeare and the Elizabethan Drama* (Johns Hopkins).

Of the dramatists other than Shakespeare, the most important studies have been concerned with Marlowe. As this review is written the Harvard Press announces the publication of John Bakeless's two-volume *The Tragical History of Christopher Marlowe*. Roy W. Battenhouse's *Marlowe's Tamburlaine, A Study in Renaissance Moral Philosophy* (Vanderbilt) is an investigation into the



sources of the Renaissance drama, while Paul H. Kocher's "Marlowe's Art of War" (*SP*) illustrates references to military practice in *Tamburlaine* and *The Jew of Malta* from contemporary treatises on the art of war. Among the more important studies of other plays and playwrights we may note first James P. Brawer's edition of *The Wars of Cyrus, An Early Classical Narrative Drama of the Child Actors* (Illinois) and William A. Abrams's edition of *The Merry Devil of Edmonton*. Josephine W. Bennett's "Oxford and Endimion" (*PMLA*) finds in Lyly's play an apology for the Earl of Oxford with respect to the charges of seduction brought against him by Anne Vavasour. Alfred Harbage's "A Choice Ternary. Belated Issues of Elizabethan Plays" (*N&Q*) contains notes on three Elizabethan plays first printed in 1662, after being revamped for the stage before the closing of the theaters. Not unconnected with the drama is "Thomas Randolph's *Salt-ing*" (*MP*), in which Fredson Bowers describes, from a MS, a comic monologue presumably spoken at a banquet at Trinity College, Cambridge, in 1627.

**Shakespeare.**—Among the Shakespeare studies may be mentioned first *Shakespeare Without Tears*, a critical study and interpretation of the plays by Margaret Webster, the producer who has collaborated with Maurice Evans in recent productions. Theodore Spencer has written on *Shakespeare and the Nature of Man* and "Appearance and Reality in Shakespeare's Last Plays" (*MP*), both of which studies are concerned with the philosophical import of the plays. Milton B. Kennedy's *The Orations in Shakespeare* (North Carolina) treats of the definition, structure, and dramatic integration of the orations. In "What Art Thou, Angelo?" (*Univ. of Calif. Pub. in English*), W. H. Durham discusses Shakespeare's exploitation of the comic possibilities of self-deception and suggests a natural transition to the tragedies and their preoccupation with appearance and reality. Among

other more or less general studies may be cited the following: William J. Grace's "The Cosmic Sense in Shakespearean Tragedy" (*Sewanee Rev.*); Ernest H. Cox's "Shakespeare and Some Conventions of Old Age" (*SP*); Hardin Craig's "Shakespeare's Development as a Dramatist in the Light of His Experience" (*ibid.*); Lewis W. Smith's "Shakespeare and the Speaking Line" (*Poet Lore*); and Sarah M. Nutt's "The Arctic Voyages of William Barents in Probable Relation to Certain of Shakespeare's Plays." (*SP*).

A number of studies of the individual plays are of importance. Madeleine Doran has made a study of "Imagery in *Richard II* and in *Henry IV*" (*MLR*), while John W. Draper continues his investigations of Elizabethan psychology in "The Character of *Richard II*" (*PQ*) and "Benedick and Beatrice" (*JEGP*). In "*The Merry Wives and Two Brethren*" (*SP*), Dorothy H. Bruce finds parallels between the play and an episode in Barnabe Riche's *Farewell to the Military Profession*. Raymond A. Houk's "Strata in *The Taming of the Shrew*" (*ibid.*) is in part a discussion of the text. Gary F. Jacob's "Reality and *The Merchant of Venice*" (*Quar. Jour. of Speech*) is on the play's remarkable fidelity to the spirit of the times, while Abbie F. Potts's "Spenserian 'Courtesy' and 'Temperance' in *Much Ado About Nothing*" (*SAB*) traces parallels between Beatrice and Mirabella and other characters.

Concerning the tragedies, Harold R. Walley has written on "Shakespeare's Debt to Marlowe in *Romeo and Juliet*" (*PQ*) and W. B. C. Watkins on "The Two Techniques in *King Lear*" (*RES*). Arthur N. Stung has made a study of "The Date of *Macbeth*" (*ELH*). In "Hamlet among the Mechanists" (*SAB*), Arthur M. Sampley permits himself some strictures on the views of C. M. Lewis, Robertson, and T. S. Eliot. Julia G. Wales's "Horatio's Commentary" (*ibid.*) is concerned with sources, while W. Roy Mackenzie's "Rosencrantz and Guildenstern" (*Washington Univ. Stud. . . Lang. and*

*Lit.*) contends that those two gentlemen knew nothing about the king's plan to kill Hamlet in England.

### SEVENTEENTH CENTURY

**Donne and Others.**—The year saw the publication of relatively few important studies of this period. Roger E. Bennett edited *The Complete Poems of John Donne*, while in "Donne and the Couplet" (*PMLA*) Arnold Stein made a study of the poet's technique. James H. Hanford's "Lord Herbert of Cherbury and His Son" (*HLQ*) is an account of Herbert's difficulties over financial matters with his son Richard. Harold R. Walley's "The Strange Case of *Olar Iscanus*" (*RES*) is a consideration of several puzzling matters relating to the publication of the poems of Henry Vaughan. Eugene M. Waith's "Samuel Rowland's *Humor's Antique Faces*" (*ibid.*) suggests Rowland's authorship of this anonymous collection of epigrams. For the latter part of the century, Ethyn W. Kirby has written a biography of *George Keith*, the Scottish Quaker writer and preacher; while Gertrude E. Noyes has made a study of "John Dunton's *Ladies Dictionary*, 1694" (*PQ*).

**Milton.**—Of biographical interest is J. Milton French's "Milton's Supplicats" (*HLQ*), which is an account of the steps by which Milton proceeded to his Cambridge degrees. William A. Neilson's "On Milton's Conception of Poetry" (*Studies in the History of Culture*) and Kester Svendsen's "Milton and the Encyclopedias of Science" (*SP*) both illuminate Milton's work; while Sara R. Watson's "Milton's Ideal Day" (*PMLA*) traces the theme of *L'Allegro* and *Il Penseroso* in pastoral literature from its beginnings. Edward S. Le Comte has written "New Light on the 'Haemony' Passage in *Comus*" (*PQ*). Two papers on *Paradise Lost* may be mentioned—John S. Diekhoff's "The Function of the Prologues in *Paradise Lost*" (*PMLA*) and Allen H. Gilbert's "The Theological Basis of Satan's Rebellion and the Function of Abdiel in *Paradise Lost*" (*MP*).

"The Puritan Art of Love" (*HLQ*), by William and Malleville Haller, is concerned with the teachings of the Puritan pulpit concerning love and marriage particularly as they are reflected in *Paradise Lost* and elsewhere in Milton. Z. S. Fink is concerned with Milton's political ideas in "The Theory of the Mixed State and The Development of Milton's Political Thought" (*PMLA*). In "Milton and *Mercurius Politicus*" (*HLQ*) Elmer A. Beller argues that Milton had no hand in any of the editorials in this journal.

**Restoration Drama.**—Staring B. Wells' *A Comparison between the Two Stages: A Late Restoration Book of the Theatre* (Princeton) is a critical edition of a book of theatrical chit-chat which was originally published in 1702. *Matrimonial Law and the Materials of Restoration Comedy* (Univ. of Penn.), by G. Spencer Alleman, is an analysis of the way in which Restoration comedy uses material from matrimonial law to provide dramatic situations and characterizations. Charles E. Ward edited *The Letters of John Dryden* (Duke), while James M. Osborn commented upon "Macdonald's Bibliography of Dryden" (*MP*).

### EIGHTEENTH CENTURY

**Swift and Others.**—The studies dealing with the first part of this century are concerned almost entirely with the writers of prose. John F. Ross's *Swift and Defoe, A Study in Relationship* (California) is primarily a study of Defoe. In "Old Wine in New Bottles" (*So. Atlantic Quar.*), F. M. Darnall denies Swift's misanthropy and discerns the exposition of Utopian ideals in *Gulliver's Travels*. Another denial of Swift's misanthropy is to be found in John F. Ross's "The Final Comedy of Lemuel Gulliver" (*Univ. of Calif. Pub. in Eng.*). J. H. Neumann, in "Jonathan Swift and English Pronunciation" (*Quar. Jour. of Speech*), note Swift's interest in pronunciation and discusses some of his practices. Rae Blanchard has edited *The Correspondence of Rich-*

ard Steele and has also thrown new light on certain aspects of Steele's history in two articles—"Richard Steele's West Indian Plantation" (MP) and "Steeleiana: an Eighteenth-Century Account Book" (SP). Morley J. Mays has reported upon "Johnson and Blair on Addison's Prose Style" (*ibid.*), while in "Richard Bentley: 1742-1942" (*ibid.*) M. L. W. Laistner has reviewed Bentley's achievement, emphasizing the wide range of his interests.

**Smollett.**—Among the novelists of the period, Smollett has received the greatest attention. Claude V. Jones's *Smollett Studies* (California) contains chapters on "Smollett and the Navy" and "Smollett and the *Critical Review*," with five appendices. In *The Later Career of Tobias Smollett* (Yale), Louis L. Martz has made a study of Smollett's creative work after 1753. Alice Parker's "Tobias Smollett and the Law" (SP) is a review of Smollett's experiences of prison and an analysis of his attitude towards the law and its punishments. In "Of Time, Personality, and the Author, A Study of *Tristram Shandy*" (*Univ. of Calif. Pub. in English*), B. H. Lehman explains and vindicates Sterne's rendering of reality without moral preoccupation.

**Johnson.**—Turning now to the age of Johnson, may be noted an edition of *The Poems of Samuel Johnson* by D. Nichol Smith and E. L. McAdam. In "New Essays by Dr. Johnson" (RES), Mr. McAdam also prints three essays identified by clues in Bishop Percy's collection. For Johnson's close associates, Katherine C. Balderston has edited *The Diary of Mrs. Hester Lynch Thrale* and two volumes of *Thraliana*; while Robert Warnock has given an account of Boswell's year in Italy in "Boswell on the Grand Tour" (SP). Two full length works on Walpole have been published—Isabel W. Chase's *Horace Walpole, Gardenist* (Princeton) and A. T. Hazen and J. P. Kirby's *A Bibliography of the Strawberry Hill Press* (Yale).

**Burke.**—Mention should also be made of three studies of Edmund

Burke. "Burke and the Totalitarian System" (*Univ. of Toronto Quar.*), by P. L. Carver, is concerned with Burke's inflexible opposition to the doctrines of Bolingbroke. In "Edmund Burke and the Book Reviews in Dodsley's Annual Register" (PMLA), Thomas W. Copeland finds evidence for crediting to Burke all the reviews published in the register between 1758 and 1765. Donald C. Bryant has written on "The Contemporary Reception of Edmund Burke's Speaking" (*Washington Univ. Stud. . . . Lang. and Lit.*). C. H. Cochrane's article on "The Mind of Edward Gibbon" (*Univ. of Toronto Quar.*) argues that Gibbon was strongly influenced by the method of inquiry of Locke and his followers.

**Thomson and Others.**—The writers usually regarded as the precursors of romanticism have not been neglected. John E. Wells has made a study of "Thomson's *Britannia*: Issues, Attribution, Date, Variants" (MP). In "Thomas Percy: Antiquarian vs. Man of Taste" (PMLA), Leah Dennis sees the *Reliques* as a compromise between Percy's respect for scholarship and his desire to cater to the literary taste of his day. Mark Schorer, in "The Mask of William Blake" (*Yale Rev.*), sees in Blake's own view of himself as an unlettered poet in whom divinity found utterance a mask partially required by temperament and partially fabricated to meet the necessities of history.

**Drama.**—Turning to the drama of the period we may note first William Van Lennep's edition of *The Reminiscences of Sarah Kemble Siddons, 1773-1785* (Harvard). Lawrence M. Price has written on "The Works of Fielding on the German Stage, 1762-1801" (JEGP), and Bertrand H. Bronson has attempted to account for the sensational success of "The Beggar's Opera" (*Univ. of Calif. Pub. in English*). Howard P. Vincent's "Christopher George Coleman, 'Lunatic'" (RES) sheds new light on the closing years of the elder Coleman. C. O. Parson has made a study of "Textual Variations in a Manuscript of *She Stoops to Conquer*" (MP).



## THE NINETEENTH CENTURY

**The Romantic Poets.**—In *Coleridge and the Broad Church Movement* (Duke), Charles R. Sanders has made a study of the liberalism which characterized Coleridge and his followers, particularly Dr. Arnold of Rugby, Thomas Carlyle, and F. D. Maurice. Joseph W. Beach has commented upon "Coleridge's Borrowings from the German" (*ELH*). In "a Note on Khubla Khan" (*MLN*), N. B. Allen finds that lines 1-30 are what Coleridge had written down before the famous interruption. Earl L. Griggs edited *New Poems of Hartley Coleridge*, while Leslie N. Broughten edited *Some Letters of the Wordsworth Family Now First Published, with a Few Unpublished Letters of Coleridge and Southey* (Cornell). The same scholar also published a supplement to the catalogue of the Wordsworth collection at Cornell University. In *The One Wordsworth* (North Carolina) Mary F. Burton made a study of the revisions of the *Prelude* to show that Wordsworth made no alterations in his fundamental beliefs. Josephine Miles has written on *Wordsworth and the Vocabulary of Emotion* (California), James V. Logan on "England's Peril and Wordsworth" (*Sewanee Rev.*), and Calvin T. Ryan on "The Child in Wordsworth's Poetry" (*So. Atlantic Quar.*). In "Jeffrey and Wordsworth: the Shape of Persecution" (*Sewanee Rev.*) Robert Daniel contends that Jeffrey really admired Wordsworth's poems but ridiculed them to exercise his own talent for abuse.

David V. Erdman's "Lord Byron as Rinaldo" (*PMLA*) is on the rise and fall of Byron's ambition to shine as a political orator. Carl H. Grabo and Martin J. Freeman have edited *The Modern Reader's Shelley*. Kenneth N. Cameron has written "Shelley vs. Southey: New Light on an Old Quarrel" (*PMLA*) and "The Social Philosophy of Shelley" (*Sewanee Rev.*). In "Shelley's 'Own Symposium': The Triumph of Life" (*SP*), William Cherubini interprets this fragment as Shelley's first attempt to deal with

the newly important problem of achieving communication with God. Frederick L. Jones' "Shelley and Spenser" (*ibid.*) is a study in influence. Karl G. Pfeiffer, in "Landor's Critique of *The Cenci*" (*ibid.*), traces the variations in Landor's enthusiasm for Shelley. Doris E. Peterson has written "A Note on the Probable Source of Landor's *Metellus and Marius*" (*SP*); and Alan L. Strout has collected "Miscellaneous Letters to, from, and about James Hogg" (*N&Q*).

On the romantic poets also are Arthur P. Hudson's "Romantic Apologiae for Hamlet's Treatment of Ophelia" (*ELH*) and J. R. Caldwell's "The Solemn Romantics" (*Univ. of Calif. Pub. in English*), the latter being a defense of the notorious humorlessness of Wordsworth, Coleridge, Shelley, and Keats.

**Victorian Poets.**—The influence of Oriental poetry on Tennyson is the subject of two studies—W. D. Paden's *Tennyson in Egypt: A study of the Imagery in His Earlier Work* (Kansas) and J. D. Yohannan's "Tennyson and Persian Poetry" (*MLN*). Thomas P. Harrison's "Tennyson's *Maud* and Shakespeare" (*SAB*) is on the influence of *Hamlet*, *Romeo and Juliet*, and *Lear*. In "Browning's Reputation at Oxford, 1855-1859" (*PMLA*), M. B. Cramer attributes to Rossetti and the undergraduates under his influence an important part in fostering Browning's reputation. Jean S. Lindsay relates "The Central Episode of Browning's *By the Fireside*" (*SP*) to events of 1847, the first year of the Brownings' residence in Italy. Fred M. Smith's "Elizabeth Barrett and Browning's *The Flight of the Duchess*" (*ibid.*) argues that the poem owes much to the character of Miss Barrett and to her projected flight to Italy in 1845. In "Matthew Arnold and Science" (*PMLA*), Fred A. Dudley examines Arnold's knowledge of physical science and his wavering opinion on the place of scientific discipline in human life. Finally among these studies of the Victorian poets should be mentioned William Gaunt's *The Pre-Raphaelite Tragedy*,



an informal account of the Brotherhood and its followers.

**The Novelists.**—Arthur H. House's *The Dickens World* is a study of the social, political, and economic world which surrounded the novelist. Gerald G. Grubb's "Dickens' Pattern of Weekly Serialization" (*ELH*) should also be mentioned. Gordon McKenzie's "Dickens and Daumier" (*Univ. of Calif. Pub. in English*) is a detailed comparison of Dickens and Daumier as caricaturists and satirists. Evidence for Thackeray's authorship of an anonymous novel is found by Ernest Boll in "The Author of *Elizabeth Brownrigge*: A Review of Thackeray's Techniques" (*SP*). In "Thackeray and N. P. Willis" (*PMLA*), Harold H. Scudder identifies Willis as the original of John Paul Jefferson Jones, a character in *Vanity Fair*. In this section also may be mentioned Philip C. Blackburn's edition of *The Complete Works of Lewis Carroll*. In *The Tireless Traveler* (California), Bradford A. Booth edited 20 letters to the *Liverpool Mercury* written by Anthony Trollope in 1875. C. B. Tinker's "The Text of Trollope's *Phineas Redux*" (*RES*) is based on a MS of the novel now in Professor Tinker's possession. Robert D. Mayo, in "The *Egoist* and the Willow Pattern" (*ELH*), discusses the significance of the willow pattern in the name Sir Willoughby Patterne and also in the larger design of Meredith's novel.

#### CONTEMPORARY

**Poetry.**—The recent death of Yeats has been the occasion for a great number of critical and appreciative essays. In the *Southern Review* the following have been published: Howard Baker's "Domes of Byzantium," a study of the poet's imagery; R. B. Blackmur's "Between Myth and Philosophy: Fragments of W. B. Yeats"; Kenneth Burke's "On Motivation in Yeats"; Donald Davidson's "Yeats and the Centaur"; Horace Gregory's "W. B. Yeats and the Mask of Jonathan Swift"; Randall Jarrell's "The Development of Yeats's Sense of Reality"; F. O.

Matthieson's "The Crooked Road," on Yeats's poetic development; Arthur Mizener's "The Romanticism of W. B. Yeats"; John C. Ransome's "The Irish, the Gaelic, the Byzantine," on the irrelevance of the scientific spirit to poetry; Delmore Schwartz's "An Unwritten Book," which outlines problems in the understanding of Yeats's poetry; Allen Tate's "Yeats's Romanticism"; Austin Warren's "Religio Poetae"; and Morton Zabel's "The Thinking of the Body: Yeats in the Autobiographies." Also may be noted Albert Guérard's *Robert Bridges: A Study of Traditionalism in Poetry* (Harvard) and Tom B. Haber's "The influence of the Ballads in Housman's Poetry" (*SP*). In "Poetry between Two Wars" (*Virginia Quar. Rev.*), Warren Beck comments on both British and American poetry of the last two decades.

**The Novel.**—William C. Frierson's *The English Novel in Transition, 1885-1940* (Oklahoma) is a study of movements and techniques in contemporary fiction. More recent trends are commented on by N. J. Endicott in "The Novel in England between the Wars" (*Univ. of Toronto Quar.*). In *The First Hundred Years of Thomas Hardy* (Colby), Carl J. Weber has supplied "a centennial bibliography of Hardiana." Lee E. Holt discusses "Samuel Butler's Rise to Fame" (*PMLA*), and W. J. Sykes answers negatively the question "Is Wells Also among the Prophets?" (*Queen's Quar.*). The recent death, presumably by suicide, of Virginia Woolf has occasioned two studies of her work—David Daiches's *Virginia Woolf*, a study of her novels, and James S. Wilson's "Time and Virginia Woolf" (*Virginia Quar. Rev.*). Mark Schorer's "The Chronicle of Doubt" (*ibid.*) attempts to explain the relative emptiness of the work of Mrs. Woolf, Joyce, Huxley, and D. H. Lawrence. Philo M. Buck's *Direction in Contemporary Literature* contains chapters on Aldous Huxley and T. S. Eliot.

**The Essay.**—In conclusion, two studies of contemporary essayists

## GERMANIC LANGUAGES AND LITERATURES

may be cited—Leonard Feeney's "The Metaphysics of Chesterton" (*Thought*) and Richard D. Altick's "Toryism's Last Stand: Charles Whibley and his 'Musings without Method'" (*South Atl. Quar.*)

## GERMANIC LANGUAGES AND LITERATURES

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### GENERAL

Even though it grows increasingly difficult to secure research material from abroad or have extensive studies published, activity in this field shows no sign of decline. The emphasis, however, seems to shift back to the study of earlier periods, and the literary and philosophical values are more appreciated.

### LINGUISTICS

According to W. Lehmann's study, "The Indo-European *dh*-Determinative in Germanic" (*Lang.*),\* the determinative *dh* expresses static condition in Indo-European and Greek. In Germanic it occurs in nouns formed from transitive roots with passive meaning; in nouns formed from intransitive roots and in verbs it expresses a modification caused by previous action.

R. M. S. Heffner's "Notes on Walther's use of *können* and *mögen*" (*Waltz*) reach the conclusion that in Walther von der Vogelweide's poems *können* connotes knowledge, from which power results, while *mögen* connotes physical strength or material power; *kan* was at Walther's time only beginning to make encroachments upon the field of meaning proper to *mac*.

W. A. Kozumplik examines the rhymes in Ayer's work in order to determine *The Phonology of Ayer's Language* (Univ. of Chicago Libraries).

A. Schirokauer's "Zur Geschichte

\* Abbreviations: GR = *Germanic Review*; JEGP = *Journal of English and Germanic Philology*; Lang. = *Language*; MfdU = *Monatshefte für deutschen Unterricht*; MLQ = *Modern Language Quarterly*; PMLA = *Publications of the Modern Language Association*; Walz = *Studies in Honor of John Albrecht Walz*, Lancaster, Pa.

des Artikels im Deutschen" (*MfdU*) relates the fluctuation in the use or omission of the article not only to changes in the philosophical attitude toward the individual thing but also to sociological conditions.

Einar Haugen's "Analysis of a Sound-Group: *sl* and *tl* in Norwegian" (*PMLA*) examines the development and distribution of the sound group, emphasizing the complexity of the linguistic phenomenon rather than formulating a convenient "sound law." He also relates the sound development to its lexical, morphological, phonetic, and phonological background. Volume I of his *Norwegian Word Studies* (Univ. of Wisconsin) Haugen devotes to the vocabularies of Sigrid Undset and Ivan Aasen, volume II to the vocabularies of the Old Norse Sagas and of Henrik Wergeland.

### MEDIEVAL, RENAISSANCE, BAROQUE

In his study, "Emotions and Attitudes in Chrétien de Troyes' *Erec et Enide* and Hartmann von Aue's *Erec der Wunderbare*" (*PMLA*) C. K. Bang points out how the emotions of joy and pride in Chrétien's work are transformed by Hartmann's ethical, religious, and pedagogical conceptions. He relates this change of attitude to the transition from the romanesque to the gothic world view, which shows a gradualistic orientation of all things towards the Supreme Being.

W. Hammer's "Albrecht von Eyb, Eulogist of Bamberg," (*GR*) gives a survey of encomiums about the City of Bamberg from the beginning of the eleventh century to the middle of the seventeenth century. The en-

comium of 1452 carries the Italian type to Germany, thereby introducing that humanistic mode of poetic expression in Germany. S. L. Sumberg connects *The Nuremberg Schembart Carnival* (Columbia Univ. Press) with devices used in carnival festivities which he follows from their roots in folk superstitions to their sophisticated stage under civic administration. He describes in detail the various costumes and types of stage used for the performances of the Schembart-Läufer.

F. H. Wagman studies the prose forms of the later seventeenth century in a book entitled *Magic and Natural Science in German Baroque Literature* (Columbia Univ.).

H. M. Wolff's "Rousseau, Möser und der Kampf gegen das Rokoko" (*MfdU*) supplements the current conception of Möser as a precursor of Herder in his fight against rationalism. Möser is also the mediator between Rousseau and the Storm and Stress movement with its reaction against the epicurean decadence of Rokoko in German society.

#### CLASSICAL PERIOD

F. J. Schmitz' book *Lessings Stellung in der Entfaltung des Individualismus* (Univ. of California) shows Lessing's revolt against any system which might deprive the individual of his freedom of action and thought, whether this system be theology or mathematical reason. Personal, irrational ethos, rather than a system of ethics rationalistically arrived at, determines the action of his characters.

In a study, "Herder's Conception of *Kraft*" (*PMLA*), R. T. Clark analyzes the origin, meaning, and importance of Herder's *Kraft* conception. He shows Herder's synthesis of the metaphysical inheritance, the mechanistic-physical conception, and the biological conception, and points out the importance of Herder's conclusions for his relations with Goethe and Schiller.

H. M. Wolff's "Der junge Herder und die Entwicklungsidee Rousseaus" (*PMLA*) provides a detailed analysis of Herder's indebtedness to Rous-

seau's philosophy of history. After a brief period of enthusiastic acceptance Herder then rejected Rousseau's historical construction as a fantastic craving for novelty. Finally in his *Geschichtsphilosophie*, Herder combined his own views with Rousseau's metaphysical system in the evolutionary idea of universal history.

E. Jockers' *Soziale Polarität in Goethe's Klassik* (Philadelphia) shows that Goethe's organic world view is not restricted to his scientific studies and ethical views, but also determines his attitude toward social problems. Placed between bourgeoisie and nobility, Goethe first directed passionate attacks against both classes; gradually, however, he recognized their relative value and function in human society.

This reviewer published *Schiller, Poet of Philosophical Idealism* (Academy Press, Oberlin), showing the chronological development of Schiller's philosophy from the naive idealism of the Karlsschule essays to the transcendental idealism of *Wallenstein* and *Wilhelm Tell*. The author's primary concern has been to develop, on a philosophical basis, a unified interpretation of Schiller, the thinker and moral philosopher.

#### NINETEENTH CENTURY

H. J. Weigand's article "Das Vertrauen in Kleist's Erzählungen" (*MfdU*) traces the trust motive in Kleist's stories from his first reaction against the optimistic belief in reason. Kleist finally arrives at a romantic form of trust in the truthfulness of the noble soul and the immanent justice of the metaphysical world order.

A. Holske's study on "Stifter and the Biedermeier Crisis" (*Walz*) traces Stifter's development from radical subjectivism to the acceptance of a social and moral discipline of collective uniformity. In his mature stage, Stifter attained a conservative, static attitude toward the social changes of the nineteenth century and considered the family the salient principle of social cohesion. Stifter is a typical representative of the German middle-class which failed

to influence the materialistic trend of the nineteenth century by idealistic and reformatory action.

A. Bosselmann-Franzen in "Die Judenbuche von Annette Droste-Hülshoff" (*MfdU*) relates the problem of the story to the religious views of the author. He sees in the characters' fate the curse of original sin and in the returning Johannes the unredeemed other ego of the murderer Friedrich.

In an article, "Characteristics of Austrian Literature" (*MfdU*), E. C. Kollman surveys the geographical, social, and politico-historical factors which are responsible for the complex Austrian character. In literature the Austrian character fluctuates between realism and pure estheticism, between gaiety and resignation, optimism and pessimism; yet, as in other spheres of life, the extremes are avoided and the result is a tolerant attitude toward all genuine expressions of life and a prevailing melancholy mood.

According to W. Silz's "Heine's Synesthesia" (*PMLA*) it is very unlikely that Heine's synesthetic expressions are based on genuine tone-color perceptions. Rather Heine employed such romantic devices in order to produce striking poetic effects as is to be expected from a writer with such intellectual delight in the incongruous.

E. Feise's article on "Heine's Essay Die Nordsee" (*MfdU*) finds that the form of the essay is determined by a conscious effort to express an extreme subjectivism. Heine introduces the unproportionately long chapters on Goethe and Napoleon in order to contrast his own subjectivism with men of objective thought and action who, by their objectivity, further the Spirit of the Age in Hegel's sense.

N. L. Willey's "Charles Sealsfield as a Realist" (*MfdU*) refutes the generally accepted opinion that Sealsfield (Postl) was one of the first realists in nineteenth century literature. A closer examination of his so-called realistic descriptions of American life reveals that his imagination by far

exceeds his power and will to observe.

#### CONTEMPORARY LITERATURE

The *Germanic Review* dedicates its October number to Gerhart Hauptmann in commemoration of his 80th birthday. It essentially contributes to our knowledge of Hauptmann's works by printing the fragment *Die Bürgerin*, by analyzing in detail the dramas *Iphigenie in Delhi* and *Germanen und Römer*. F. W. J. Heuser discusses the possible source material of *Germanen und Römer*, its relation to Klopstock's and Kleist's Hermann-dramas, the tragic characters, and those elements of motivation and structure which reappear in Hauptmann's later work. Most noteworthy is the emphasis the 19-year-old dramatist places on peaceful understanding among nations. In an introductory article, F. B. Wahr analyzes "Theory and Composition of the Hauptmann Drama." For Hauptmann the drama is an expression of the inherent striving of mankind to realize itself. Accordingly, in his dramas nervous strain and friction results from the interplay of human beings and leads to an eruptive climax. Hauptmann's dramas are symphonies of life, tending to reconciliation with life rather than solution of its problems in a normative manner.

Meno Spann's "Der Josephroman in Thomas Mann's Gesamtwerk" (*PMLA*) compares motifs and themes, particularly of Mann's *Buddenbrooks*, *Zauberberg* and the *Josephroman*, and shows the widening circle of Mann's humanity. Mind as an artist's problem, mind as the privilege of esthetic intellectuals, and mind as the tragic distinction of mankind are the three stages of Mann's philosophy. M. F. Lawson's "The Transposed Heads of Goethe and of Mann" (*MfdU*) notes coincidence of subject matter in Goethe's poem *Paria-Legende* and Mann's most recent story. In his Goethe novel *Lotte in Weimar*, Mann interpolated Goethe's reflections on the theme. In *Die vertauschten Köpfe* Mann adds to an original Indian legend, making his story typically modern, as com-



parison with Goethe's poem further proves.

J. C. Blankenagel's "The Writings of Jakob Wassermann" (Christopher Publishing House, Boston) describes and analyzes the works of Wassermann.

According to D. W. Schumann's article "Motifs of Cultural Eschatology in Post-expressionistic German Poetry" (*MfdU*) the post-expressionistic poets share with the expressionists a violent reaction against mechanization and urbanism. They may be classified in two groups: "the idealistic objectivists" for whom nature is a realm beyond the hopes and despairs of the modern soul; the "radical objectivists" who, sceptical of any such metaphysical tendency, blame man's lack of reason for his self-destruction. The same author wrote a study on "Enumerative Style and Its Significance in Whitman, Rilke, Werfer (*MLQ*). Whitman's mysticism is colored by his faith in nineteenth century materialism and progressivism, Rilke's is a pantheism of quietistic contemplation, and Werfel's a Gnosticism revolving around the redemption of God as well as man. Enumeration results as a stylistic device out of the basic conception of cosmic oneness.

#### GERMAN-AMERICAN

H. H. Reichard contributes a chapter on "Pennsylvania German Literature" in *The Pennsylvania Germans* edited by R. Wood (Princeton Univ. Press). He sketches literary activity of the chief Pennsylvania German dialect poets. A. F. Buffington's "The Pennsylvania German Dialect" in the same publication summarizes the essential phonetic, morphological, and syntactical peculiarities of this dialect.

H. S. Jentz's "German Thought and Literature in New England, 1620-1820" (*JEGP*) proves from such documents as the library catalogues of Winthrop and the Mathers, Harvard University and the correspondence of a number of prominent New Englanders that there existed intel-

lectual and literary relations between New England and Germany, which began with the early settlements of Massachusetts Bay and became firmly established during the first decades of the Republic.

H. Frenz's article, "Bayard Taylor and the Reception of Goethe in America" (*JEGP*), evaluates Taylor's service to Goethe against the background of the reception of Goethe's work before Taylor translated the First Part of *Faust*. O. W. Long's "Werther in America" (*Walz*) follows Goethe's novel in America from 1784 when it reached this country through the nineteenth century. Long surveys the influence of both the original and its English imitations, the poems on Werther, the parodies, the dramatic and operatic adaptations, finally the changing attitude of the critics.

In a study "George Henry Calvert, Admirer of Goethe" (*Walz*), H. W. Pfund gives a detailed account of Calvert's service in the cause of German literature in America. He describes Calvert's life-long defense of Goethe's character and works against the Puritans of New England and briefly reviews the translations from Schiller's and Goethe's works, as well as his writings on Goethe and German literature.

A. R. Schultz's "Margaret Fuller—Transcendental Interpreter of German Literature" (*MfdU*) describes Margaret Fuller's studies of the German classicists and romanticists, her fight for Goethe against the limitations of New England morality, and the influence of her translations on Brooks and Dwight.

P. A. Shelly gives an account of "Niclas Müller; German-American Poet and Patriot" (*Walz*). Participation in the revolutionary movement of 1848 caused the auto-didactic type-setter of the Cotta firm to emigrate to America where some of his poems had already become known through translations by William Cullen Bryant. Müller continued his fight for freedom in this country by adopting the cause of abolition.

# ROMANCE LANGUAGES AND LITERATURES

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## GENERAL

America's entrance into the war did not perceptibly affect Romance scholars and teachers as such during the early part of the year, but as time went on more and more were called into service or enlisted. In December almost all annual meetings were cancelled because of restrictions in transportation. While scholarship did not decrease noticeably in quality or quantity, learned journals began to feel the shortage of materials and presses.

Henry C. Lancaster was honored by a testimonial issue of *Modern Language Notes* and a selection of his writings, *Adventures of a Literary Historian* (JHP)\*, published by his friends and students. *Hispania* paid tribute to Alfred Coester, its former editor, with a collection of papers by distinguished scholars. A special number of the *Philological Quarterly* was dedicated to the memory of the late Ralph E. House. A valuable *Directory of American Scholars* (Lancaster, Pa.) included the biographies of outstanding Romance scholars.

## BIBLIOGRAPHIES

**Italian.**—An excellent general bibliography is published annually in the Supplement of the *PMLA*. "Recent literature of the Renaissance" (*SP*, 328) has sections devoted to French,

Spanish, and Italian literatures. In the field of Italian: J. Fucilla continued his "Bibliography of Italian studies in America" (*Ital*, 28 *et passim*); R. Hall published an indispensable "Bibliography of Sardinian Linguistics" (*Ital*, 133); W. Smith issued *A Bibliography of Critical Material on Giosuè Carducci* (Colorado Springs, Col.); E. Wilkins gave the first accurate list of "The Separate Fifteenth Century Editions of the *Triumphs of Petrarch*" (*Library Quarterly*, 748), nine in number.

**French.**—A. Schinz continued his annual "L'année littéraire" (*MLJ*, 256); and "Anglo-French and Franco-American Studies" (*RR*, 132), selected and annotated by D. Bond and J. Tucker.

**Spanish and Hispanic American.**—R. Hilton's *Handbook of Hispanic Source Materials and Research Organizations in the United States* (Toronto) was badly needed; the sixth volume, for the year 1940, of the *Handbook of Latin American Studies* (Harv.), is the outstanding work in its field; A. Marchant edited an important guide to *Investigations in Progress in the United States in the Field of Latin American Humanistic and Social Science Studies* (Library of Congress) the *Inter-American Bibliographical Review* (Wash., D. C.), a quarterly, contained continuing bibliographies of interest; H. Hespelt surveyed the "Progress in Providing the Bibliographical Background for Spanish American Studies" (*Hisp*, 272) from 1912 to 1942; S. Leavitt continued his "Theses Dealing with Hispano-American Language and Literature" (*Hisp*, 204), an index to current research; J. Dossick catalogued over 200 "Doctoral Dissertations on Mexican Topics" (*MR*, 3), some dealing with literature; R. Pane compiled "A Selected Bibliography of Latin-American Literature in English trans-

\* Presses are abbreviated as follows: CUA, Catholic University of America; Harv., Harvard; JHP, Johns Hopkins Press; MLA, Modern Language Assn.; Prin., Princeton; UC, University of California; UChi, University of Chicago. Periodicals: BA, *Books Abroad*; FR, *French Review*; Hisp, *Hispania*; HR, *Hispanic Review*; IABR, *Inter-American Bibliographical Review*; Ital, *Italica*; L, *Language*; MLJ, *Modern Language Journal*; MLF, *Modern Language Forum*; MLN, *Modern Language Notes*; MLQ, *Modern Language Quarterly*; MP, *Modern Philology*; MR, *Mexicana Review*; PMLA, *Publications of the Modern Language Assn.*; RFM, *Revista de Filología Hispanoamericana*; RHM, *Revista Hispánica Moderna*; RI, *Revista Iberoamericana*; RR, *Romanic Review*; S, *Speculum*; SP, *Studies in Philology*.

lation" (*MLJ*, 116) by subject division; H. Hespelt's "List of Articles and Reviews on Mexican Subjects Appearing in *Hispania*" (*MR*, 18) covered the period 1917-41; E. Moore described 40 catalogs of "Anónimos y pseudónimos hispanoamericanos" (*RI*, 179), began a "Catálogo razonado de obras anónimas y pseudónimas mexicanas" (*Divulgación Histórica*, 530 *et passim*), and made a survey of the field of "Mexican bibliography" (*IABR*, 73); also a collaboration, "Bibliografía de Santiago Argüello" (*RI*, 427).

## LINGUISTICS

**General.**—Activity continued to increase in linguistic research during the year. G. Bonfante tried to prove that "The Romance desiderative *se*" (*PMLA*, 930) derives from Latin *sic*; L. Gray's "Six Romance Etymologies" (*RR*, 157) dealt with Fr. *bis*, Med. Lat. *feudam*, Fr. *Montmartre*, pre-Romantic *mugus*, Fr. *travailler*, and Romance *por*; C. Rice wrote about Sp. *espita*, Ptg. *rilhar*, and So. Fr. *tauna* in "Romance Etymologies" (*L*, 39).

**French.**—A. Hatcher contributed a study of *Reflexive verbs: Latin, Old French, Modern French* (*JHP*), and H. Muller investigated "The beginnings of French fixed word order" (*MLN*, 546). E. Armstrong elucidated the meaning of "Old French *Le chief d'une montagne*" (*MLN*, 496), *chief* meaning "concavity"; C. Livingston traced the "Etymologies of O. Fr. *reechier* and Eng. 'rack'" (*MLN*, 631). L. Spitzer's contributions were numerous and erudite: "*Chez Vandamme sont venus*" (*MLN*, 103); "Anc. Fr. *Açopart* 'Ethiopian'" (*MLN*, 252); "Fr. *mitant* 'the middle' 'the half'" (*MLN*, 356); "Eng. 'dismal' = O. F. *dism-al*" (*MLN*, 602).

**Spanish.**—T. Navarro Tomás discussed the "Rasgos esenciales de las vocales castellanas" (*PQ*, 8); W. Hawkins gave evidence to support two principles of linguistics, "Flight from Assimilation and Trial and Error in Spanish Linguistics" (*HR*, 273). "The use of *a* as a designation of personal accusative in Spanish"

(*MLN*, 421), concluded A. Hatcher, derives from the "ceremonious prepositional object." F. Sánchez and R. Spaulding disclosed that "Ustedes como sujeto de la segunda persona del plural" (*HR*, 165), probably Andalusian in origin, is widely used; I. Chart surveyed "Critical opinions on the 'supuesto andalucismo' in America" (*MLF*, 28). B. Levy contributed an important survey, historical and evaluative, of "Libros de sinonimia española" (*HR*, 285). A. Castro sought the human and etymological origins of "La plabra títère" (*MLN*, 505); H. Kenniston added four "Notas léxicas" (*RFH*, 67); L. Spitzer discussed "Raza del sol" (*HR*, 64). Word lists: O. Hauptmann, "A glossary of *The Pentateuch*" (*HR*, 34), a fourteenth century Escorial MS. translated from the Hebrew; L. Kidde, "Índice de los americanismos comentados por el doctor Rodolfo Lenz en su obra, *La oración y sus partes*" (*Hisp*, 333); G. Stanford, "A Study of the Vocabulary of Ricardo Güiraldes' *Don Segundo Sombra*" (*Hisp*, 181).

**Portuguese.**—An excellent *Orthography, Phonology and Word Study of the "Leal conselheiro"* (Penn.) by K. Roberts; "Again Cl. L. *tēpidus*, Sp. Ptg. *tibio*" (*HR*, 258) by J. Allen; L. Spitzer, "Ptg. *rilhar*" (*HR*, 344).

**Italian.**—R. Hall continues his valuable contributions with *The Italian "Questione della Lingua"* (UNC), an interpretation; "The significance of the Italian *Questione della lingua*" (*SP*, 1), an historical treatment of the quest for a standard language in Italy; "Latin -ks in Italian and its dialects" (*L*, 117); "Initial *ts-* in Italian *zolfo* and *zuppa*" (*Ital*, 52), geographical distribution and an explanation. A. Mezzacappa examined "The preposition *a* < *ab*" (*PMLA*, 327) in Dante, its categories and frequency; L. Spitzer, "Trevigiano 'denti spaisi' 'denti allegati'" (*Ital*, 168) and "Ancora corcibaldo 'vesta corta'" (*Ital*, 42).

## FRENCH

**Medieval.**—A. Hatcher reported the variation of "Tense-usage in the

*Roland*" (SP, 597) had as its purpose stylistic modulation. U. Holmes locates the setting of "*Marie's Guigemar*" (SP, 11) in Wales. "The Conventional Saracen of the Songs of Geste" (S, 201) was a propaganda figure drawn almost entirely in profile according to C. Jones. W. Nitze offered linguistic evidence and some analogies in answer to "Who was the Fisher King?" (RR, 97) and located "The Home of Robert de Boron" (MP, 113) in Burgundy. The "MS fragments of a continental French version of the *Roman d'Ipomedon*" (MP, 117) edited by C. Livingston belong to the fourteenth century. E. Armstrong and A. Foulet collaborated in establishing the text of *Le roman du fuere de Gades d'Eustache* (Prin.), while F. Agard indicated the disintegration of Anglo-Norman versification in samples of the "*Roman de toute chevalerie*" (RR, 216). Notes and corrections were added to L. F. Fluttre's work in "*Le Vocabulaire des Faits des romains*" (MLQ, 205) by R. Levy. M. Silver published part of the text, with variants, of *Gilbert de Mes according to MS. B* (New York). On the troubadours: G. Frank, "The distant love of Joufré Rudel" (MLN, 528), cast suspicion on the biographical approach; K. Lewent, "Father and Son in Provençal Poetry" (MLN, 534), explained a Crusade Song by Elias Cairel. C. Lancaster's *Saints and Sinners in Old Romance* (Vanderbilt) included poems of feudal France. "Les refrains des rondeaux de Charles d'Orléans" (MP, 259) by M. François; "Five notes on the text of Villon" (MLN, 526) a posthumous article by L. Cons; and "Un recueil de farces inédites du XV<sup>e</sup> siècle" (MLN, 520), some 53 listed by chronology, place, and type, the important contribution of G. Cohen.

**Sixteenth Century.**—R. Clements' *Critical Theory and Practice of the Pléiade* (Harv.) is a contribution to aesthetics as well; I. Silver in "Ronsard and Du Bellay" (RR, 3) suggested the latter's Pindaric imitation under the guidance of the former.

**Seventeenth Century.**—H. Peyre,

*Le classicisme français* (New York), and P. Wadsworth, *The Novels of Gomberville* (Yale), deserve well of readers. A. Cioranescu wrote notes "Pour l'histoire du *Roman royal*" (MLN, 190). W. Nitze found that Pascal's definition of God (MLN, 552) stems from Alain de Lille; and G. Chinard wrote a disquisition on Pascal's "mien, tien" (MLN, 510). Drama: H. Lancaster brought to a close his notable *History of French dramatic literature* with Part V (JHP), a recapitulation and index; P. Saintonge and R. Christ in *Fifty Years of Molière Studies* (JHP) brought Desfeuilles' bibliography down to 1941. Minor dramatists: *Les illustres fous of Charles Beys* (JHP), an annotated edition by M. Protzman; *Adrien Jourdan's Susanna* (JHP), a critical edition of a Jesuit school play by L. Coffey; "Jean Crosnier" (MLN, 245) was identified by C. Zdanowicz; H. Lancaster rejected Boisrobert's debt to Lasso de la Vega and Virués for *Vraye Didon* (RR, 72). J. Hutton gave an immediate source in "La Fontaine, *Le rat et l'huître*" (RR, 26). D. Gilbert and R. Pope examined "The animadversions of Bishop Bossuet upon the Quakers and Quietists" (PMLA, 105). "L'heureux paradoxe de Madame de Sévigné" (RR, 32) according to F. Baldensperger is her continuity of culture. *Boileau en France au dix-huitième siècle* (JHP) was a contribution to the history of ideas made by J. Miller. B. Facticeau published a critical edition of Fénelon's unpublished *Memoire sur Doüay* (PMLA, 116) written in 1702.

**Eighteenth Century.**—J. Carnus wrote on "L'évolution de la notion d'évidence au XVIII<sup>e</sup> siècle" (FR, 487) as seen in French literature. Voltaire: M. Waterman, *Voltaire, Pascal and Human Destiny* (New York); E. Price, "Voltaire and Montesquieu's Three Principles of Government" (PMLA, 1046), agrees with the former's strictions on the latter; M. Maestro studied *Voltaire and Beccaria as Reformers of Criminal Law* (Columbia); G. Frank published a letter of "Voltaire to Mazzuchelli"



(MLN, 355) dated June 4, 1762; H. Grubbs in "Voltaire and Rime" (SP, 524) stated that poor versification doomed him to failure as a poet; "Voltaire and Firmin Abauzit" (RR, 236) were respectively abstracter and author of the article "Apocalypse" in the *Dictionnaire Philosophique* according to M. Waterman; in "Vauvenargues et Voltaire" (RR, 41), wrote F. Vial, Voltaire relied on the literary taste of the moralist; E. Philips, after studying the MS. marginalia of Madame du Châtelet and Voltaire in a copy of Dacier's *Plato* (RR, 250), concluded that Voltaire here showed greater respect for Plato; R. Pike disclosed that Voltaire's "Le patriot insulaire" (MLN, 354) so-called in England was really his *Tancrède*. L. Gaudin published *Les lettres Anglaises dans l'Encyclopédie* (New York). L. Krakeur clarified some events of "La jeunesse de Diderot" (PMLA, 133). E. Prator, "E.-C. Fréron in the light of variants in the text of his *Lettres surquelques écrits de ce temps*" (MLQ, 105), "Le dangers du cliché littéraire" (MLN, 573), stated A. Schinz, have kept critics from seeing three fundamental ideas common to Rousseau and Dr. Johnson; A. Rowbotham, "Madame de Genlis and J.-J. Rousseau" (MLQ, 363), the indebtedness of this critic to Rousseau; R. Sewall noted "An Early Manuscript Translation of Rousseau's Second Discours" (MLN, 271) by John Farrington in 1756; Jacques Cazotte (JHP) was thoroughly appraised by E. Shaw; J. de La Harpe published a study on *L'abbé Laurent Bordelon* (UC) and the fight against superstition, 1680 to 1730. A. Whallon printed "An Unpublished Letter from J.-J. Rosseau to d'Argental" (MLN, 652).

**Nineteenth Century.**—On literary currents: S. Travers, "Criticism of Romanticism in Dramatic Parodies" (FR, 211) as *reductio ad absurdum*; J. Amiel, "Réalisme et positivisme" (RR, 105), their divergences; and "Un précurseur du réalisme" (MLQ, 379), i.e. Max Buchon; H. Hatzfeld, "Discussion sur le naturalisme français" (SP, 696), supreme effect upon

diction and syntax. The Novel: O. Moore, "How Victor Hugo Created the Characters of *Notre-Dame de Paris* (PMLA, 255); M. Smith, "Stendhal" (FR, 44); J. Alciatore, "Stendhal et Lancelin" (MP, 71), psychological principles derived from the latter; R. Vigneron, "Deux pamphlets milanais de Stendhal" (MP, 171), their place in his intellectual development; D. Healy, "A note on Mérimée's correspondence" (MLN, 198), some letters; E. Dargan and B. Weinberg, *The Evolution of Balzac's Comédie humaine* (UCHi); H. Forest, "Le rôle du déterminisme dans la *Comédie humaine*" (RR, 264); "Violent technique in *Les Rougon-Macquart*" (PMLA, 1137) by J. Wenger analyzes Zola's use of "suspension" and "focus"; M. Jones, "Two American Zola Forgeries" (FR, 24) O. Fellows, "Maupassant's *Apparition*, a Source and a Creative Process" (RR, 58), i.e., Jules Lecomte and realistic exaggeration; M. Gelson, *An analysis of the Realistic Elements in the Novels of René Bazin* (CUA); W. Kennett, "The theme of Penguin Island" (RR, 275) traced to travel-accounts of mariners. Poets: A. Delattre, "Two Unpublished Letters of Alfred de Vigny" (MLF, 6) and A. Feuillerat, *Baudelaire et la Belle aux cheveux d'or* (Yale) identifying her as Marie Daubrun, an actress. W. Cornell investigated a champion of symbolism and free verse, *Adolphe Retté (1863-1930)* (Yale). H. Smith discussed "Sainte-Beuve on Science and Human Nature" (MLN, 592; H. Craig found "An Unpublished Letter of Ernest Renan" (MLN, 275) to Anatole France; and H. Smith wrote "Ernest Renan vs. an Anglo-Saxon publisher" (MLF, 1).

**Twentieth Century.**—The Theater: "An Autobiographical Notice of H.-R. Lenormand" (FR, 501) by E. Sheffer; "Tragedy in the Plays of Cocteau" (FR, 463) by W. Fowlie; "The Genesis and Evolution of Curel's *L'ame en folie*" (MP, 295) by W. Schuyler; "Jean-Jacques Bernard" (BA, 134) by S. Rhodes. The Novel: R. de Messières discovered the influence of

Fernand Gregh on Proust (*RR*, 113); G. Brée, "Une étude du style de Proust" (*FR*, 401); S. Levy, "Proust's Realistic Treatment of Illness" (*FR*, 324); H. Peyre, "André Gide et les problèmes d'influence en littérature" (*MLN*, 448), an interesting report; C. Lynes, "Northern Africa in André Gide's Writings" (*PMLA*, 851), on the importance of his exoticism; "the finest flower of contemporary preciosity" said L. LeSage of "Jean Giraudoux" (*PMLA*, 1196); F. Lehner defended "Julien Green" (*FR*, 385). L. Spitzer gave "A Linguistic and Literary Interpretation of Claudel's *Ballade*" (*FR*, 134).

### ITALIAN

**General.**—D. Rotunda compiled a *Motif-index of the Italian novella in prose* (Indiana) and J. Fucilla an equally useful *Universal Author Repertoire of Italian Essay Literature* (New York). F. Magoun gave an historical account of "Il gioco del calcio fiorentino" (*Ital*, 1).

**Dante.**—In "Speech and Language in *Inferno* xiii" (*Ital*, 81) L. Spitzer argued that familiar stylistic patterns were specifically adapted to particular situations and characters. A. Bianchini disagreed with Dr. Austin's quantitative interpretation in "Ancora della stella nell'uso dantesco" (*Ital*, 56); and J. Shaw added a note on "Perl'altre 'convivio,' III, xiv, 15" (*MLN*, 580).

**Petrarch.**—"Petrarch's Conception of the Dark Ages" (*S*, 226) was described by T. Mommsen as more pagan than Christian; C. Bayley, "Petrarch, Charles IV, and the *Renovatio Imperii*" (*S*, 323), showing that Charles IV's temporary success left Petrarch irresponsible. O. Moore rejected L. B. Alberti as author of the *Istoriotta amorosa fra Leonora de' Bardi e Ippolito Buondelmonte* (*Ital*, 49). G. Grillo investigated *Two Aspects of Chivalry: Pulci and Boiardo* (Boston).

**Renaissance.**—*Luca Pacioli and His Times* (UNC) by R. Taylor on this versatile friar; C. Singleton, "Machiavelli and the Spirit of Comedy" (*MLN*, 585), his *Mandragola*; P.

Kristeller reproduced "An Unpublished description of Naples by Francesco Bandini" (*RR*, 290) composed ca. 1476; A. Pelligrini, "Gordinò Bruno and Oxford" (*Huntington Library Quarterly*, 303), not an invitation from, but an intrusion in Oxford. J. McDowell described "Some Pictorial Aspects of Early *commedia dell'Arte*" (*SP*, 47); H. Marraro printed "An Unpublished Letter of Lorenzo da Ponte" (*Ital*, 26); D. Vittorini stressed the continuance of "Realism During the Romantic Age" (*Ital*, 158); T. Bergin characterized "Bruno Cicognani" (*Ital*, 22).

### SPANISH

**Early Period.**—G. Northup viewed "The Poem of the Cid" (*PQ*, 17) as a novel; J. Ornstein investigated "Misogyny and pro-feminism" in early Castilian Literature" (*MLQ*, 221) and discovered only two genuine detractors, Rojas and Lucena. V. Joiner and E. Gates discussed the consistent use of "Proverbs in Gil Vicente" (*PMLA*, 57); J. Gillet gave a critical edition of "Coplas de unos tres pastores" (*PQ*, 23), attributed to Diego de Reynosa.

**Golden Age.**—A. Castro considered "The prefaces to *Don Quixote*" (*PQ*, 65) as windows to a new view of the masterpiece. M. Buchanan in "Cervantes and Lope de Vega: Their Literary Relations" (*PQ*, 54) dealt mainly with their ideas of the "new comedy." "On the date of five plays of Tirso de Molina" (*HR*, 183) and "Certain Phases of the Sumptuary Decrees of 1623" (*HR*, 91) and Tirso's allusions to them, were thorough articles by R. Kennedy. P. Salinas' "La espada y los tiempos de la vida en *Las mocedades del Cid*" (*MLN*, 568) portrayed the sword as a symbol of life-stages; I. Leonard and W. Fichter described "Two Unrecorded Lorenzana Editions of Lope de Vega" (*HR*, 345). H. Seris discovered three unknown *entremeses* of Pedro Ordóñez de Ceballos (*PQ*, 97); in "Quevedo and Salas Barbadillo" (*HR*, 223). G. LaGrone asserted that the latter did not merely copy or con-

tinue the former; M. Romera-Navarro made a profound analysis of "El humorismo y la sátira de Gracián" (*HR*, 126); J. Fucilla reprinted some hitherto unknown poems of this period from a MS. collection called "Poesía española" (*PMLA*, 370). H. Corbató in "Feijóo y los españoles americanos" (*RI*, 59) indicated the former's understanding and the latter's gratitude.

**Nineteenth Century.**—P. Rogers' "Grub Street in Spain" (*Hisp*, 39) deplored the destructive effect of misery and poverty on the dramatists; F. Duffey defined the status of "Juan de Grimaldi and the Madrid Stage, 1823-37" (*HR*, 147); and W. Smith spoke of the "Contributions of Rodríguez Rubí to the Development of the *alta comedia*" (*HR*, 53) as mainly innovation and popularization. D. Samuels reviewed "La poesía de Salvador Bermúdez de Castro" (*RHM*, 215). J. Casaldueño underlined periodicity in "El desarrollo de la obra de Galdós" (*HR*, 244) while H. Berkowitz in "Galdós and the Generation of 1898" (*PQ*, 107) suggested the influence of Galdós on later writers through the Spanish masses. "The Naturalistic Theories of Leopoldo Alas" (*PMLA*, 536) lead toward spirituality according to W. Bull who also gave an acute, devastating, definition of "The Liberalism of Leopoldo Alas" (*HR*, 329).

**Modern Period.**—L. Spitzer referred to García Lorca in his "Notas sintácticas estilísticas a propósito del español 'que'" (*RFH*, 105). F. Pleak in *The Poetry of Jorge Guillén* (Prin.) gave a fair critical appraisal but some poor translations. A. del Río's analysis of "El poeta Pedro Salinas" (*RHM*, 1) is clear and friendly; M. Arce and S. Rosenbaum, "Pedro Salinas—bibliografía" (*RHM*, 69), excellent; L. Spitzer, "El conceptismo interior de Pedro Salinas" (*RHM*, 33), erudite and friendly. J. Castellano threw light upon "Alejandro Casona" (*Hisp*, 49), his dramas and his exile.

**Versification.**—D. Clarke contributed three articles: "The Spanish octosyllable" (*HR*, 1), deriving from

Provençal; "The Fifteenth Century 'copla de pie quebrado'" (*HR*, 340), definition and description; "The copla real" (*HR*, 163), notes on its use. H. Hilborn concluded that "Calderón's 'agudos' in Italianate verse" (*HR*, 157) were rare and solemn in tone.

## PORTUGUESE

A. Nykl published a critical edition of part of Duarte Galvão's *Cronica del rey Dom Affonso Hamriquez* (Cambridge, Mass.)

## HISPANIC AMERICAN

**Anthology.**—The Instituto Internacional de Literatura Iberoamericana issued the second of its "Clásicos de América," an anthology of José Asunción Silva's writings (Mexico).

**Colonial.**—J. Van Horne observed that "Motolinía as a man of letters" (*PQ*, 47) was a shrewd realist, and he also published "Algunos documentos relacionados con Bernardo de Balbuena" (*Hisp*, 322). F. Steck's *Early Mexican Literature* (UNC) is summary but well documented and readable.

**Poetry.**—G. Fay gave a substantial description of "Rubén Darío in New York" (*MLN*, 641) during his 1914-15 visit; H. Parish pursued the theme of death in Darío's poems (*RI*, 71). While J. Arrom considered "La poesía afrocubana" (*RI*, 359) as a literary school, D. Schons characterized "Negro poetry in the Americas" (*Hisp*, 309) as spiritual and religious. P. Salinas' "Registro de Jorge Carrera Andrade" (*RI*, 285) is an intense and interesting survey of this Ecuadorean's poems.

**The Theater.**—H. Johnson gathered from the Acts of the Mexico City Cabildo "Nuevos datos para el teatro" (*RFH*, 127) for 1600-50. D. Schons in "The Mexican Background of Alarcón" (*PMLA*, 89) concluded that his plays, thoroughly Spanish, have undercurrents of a Mexican spirit. W. Jones, "La Gringa' Theme in River Plate Drama" (*Hisp*, 326), the miscellaneous population augurs a continuance of theme.

**The Novel.**—O. Green in "Blanco-



Fombona, Pérez Galdós, and Leopoldo Alas" (*HR*, 47) indicated the former's debt to, and differences from, the latter. A. Lopez discussed "Rafael Arévalo Martínez y su ciclo de animales" (*RI*, 323), his main theme. V. Warren wrote a biography and criticism of "Eduardo de Salterain y Herrera como novelista" (*RI*, 351). E. Moore examined Fernández de Lizard's activities as a printer in "Notas bibliográficas sobre la prensa insurgente" (Chihuahua); disclosed and identified the first foreign novel published in Mexico, "Dos notas de bibliografía mexicana" (*Abside*, 454); and surveyed the life and works of "Heriberto Frías" (*MLF*, 12). "The Land Question Enters Mexican Literature" (*Hisp*, 395) stated R. Sedgwick.

**Other Articles.**—"Manuel González Prada" (*RHM*, 193) and his influence for a better Peru by J. Garro. A brief history of "Mexican Literature" (*Encyclopedia Americana*, 1942) by E. Moore. J. Swain gave some brief notes on the "Costa Rican Mystics" (*Hisp*, 79); M. Erickson described "Antonio Batres Jáuregui" (*Hisp*, 343) as "a philologist able to contend with Menéndez y Pelayo on even terms," and called "Guatemala, asilo de escritores hispano-americanos" (*RI*, 115). E. Gates, "Problems in Research Dealing with Portuguese and Brazilian Studies" (*Hisp*, 151), a good general guide.

## COMPARATIVE LITERATURE

**French Influences.**—On English: M. Lossing, "The prologue to the Legend of Good Women and the *Lai de Franchise*" (*SP*, 15), finds Deschamps not a certain source for Chaucer; answering "How Great was Shakespeare's Debt to Montaigne" (*PMLA*, 988), A. Harmon stresses the pitfalls in the parallel statement method of determining influences; J. Tucker, "The Eighteenth-Century English translations of Molière" (*MLQ*, 83) and "English translations from the French, 1650-1700" (*PQ*, 391), excellent additions to the new *Cambridge Bibliography of English*

*Literature*; F. Baldensperger, "La première relation intellectuelle de David Hume en France" (*MLN*, 268), suggesting Lévesque de Pouilly; T. Copeland, "Pluche and Derham, New Sources of Goldsmith" (*PMLA*, 435); R. Oake, "Political Elements in Criticism of Voltaire in England, 1732-47" (*MLN*, 348); A. Rabinovitz, "Hugo's 'Bancroft' and 'Le message de Grant'" (*MLN*, 648); T. Palfrey, "Louise Swanton Belloc, 1796-1881" (*MLF*, 115), editor and translator, intermediary between France and America; M. Jones, "L'attaque du Moulin" in American Translation" (*MLN*, 207), 11 editions; H. Randall, "Whitman and Verhaeren" (*FR*, 36), parallels in their lives, ideals. With Spanish: J. Granier, "Hugo y Andrade" (*RI*, 87), Argentina's Hugo; kindred spirits, declared C. Clavería in "Flaubert y 'La Regenta' de Clarín" (*HR*, 116); L. Sas, "The spirit of France in Argentina" (*FR*, 468). J. Ornstein, "Castilho e as suas adaptações portuguesas de Molière" (*Hisp*, 415), models of good Portuguese. With German: C. Bang, "Emotions and attitudes in Chrétien de Troye's *Erec et Enide* and Hartmann von Aue's *Erec der Wunderaere*" (*PMLA*, 297), a comparison of Gothic and Romanesque worlds; H. Wolff, "Der Junge Herder und Die Entwicklungsidee Rousseau" (*PMLA*, 753); N. Furst's "Rilke's Translations of English, French, and Italian Sonnets" (*SP*, 130) refers to Michelangelo and Louise Labbé.

**Italian.**—With English: W. Bryan and G. Dempster, *Sources and Analogues of Chaucer's Canterbury Tales* (UCHi); E. Beall, "Housman, Dehmel and Dante" (*MLN*, 211), a possible common source; D. Dilts, "Observations on Dante and the *House of Fame*" (*MLN*, 26), Chaucer's adoptions; J. Severs, *The Literary Relationships of Chaucer's "Clerkes tale"* (Yale); D. Bruce, "The Merry Wives and Two Brethren" (*SP*, 265), reflecting Straparola and Giovanni Fiorentino; D. Gordon, "A Possible Source for the Hero-Claudio Plot" (*SP*, 279) found in a Giambattista



della Porta play. With French: C. Beall, "Un écho de Guinicelli dans Philippe Desportes" (*MLN*, 29; M. Françon, "Sur l'influence de Pétrarque en France aux XV<sup>e</sup> et XVI<sup>e</sup> siècles" (*Ital*, 105), on Marot, Ronsard, and the Pléiade; C. Beall, "La fortune du Tasse en France" (*MLA*). With Spanish: E. Morby, "'Gli ecatommiti,' 'El favor agradecido,' and 'Las burlas y enredos de Benito'" (*HR*, 325), indicating Lope de Vega's borrowings from G. B. Giraldi; J. Fucilla, "Sannazaro's 'Arcadia' and Gálvez de Montalvo's

'El Pastor de Filida'" (*MLN*, 35); the latter helps to establish the former as a model.

**Spanish.**—With English: D. Peterson, "A Note on a Probable Source of Landor's *Metellus and Marius*" (*SP*, 680), i.e., Cervantes' *Numancia*; S. Denslow, "Don Juan and Faust" (*HR*, 215), identical in origins; J. Englekirk, "Notes on Longfellow in Spanish America" (*Hisp*, 295), well substantiated; M. Erickson, "Three Guatemalan Translators of Poe" (*Hisp*, 73). A Nykl, "Arabic Phrases in *El Conde Lucanor*" (*HR*, 12).

## LATIN LITERATURE\*

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### INTRODUCTION

It will not be feasible to list in this place all articles and books on the subject of Latin Literature that appeared during 1942. Classical scholarship covers every phase of Greek and Roman civilization, and any report on Latin Literature would be narrow and cramped that did not permit glimpses of all phases of the life of which that literature is an expression. It is the study of the ancient Roman from the cradle to the grave that becomes the classicist's concern, the study of Roman civilization from its cradle to the grave that classical scholarship explores and ever seeks to illuminate

in the interests of truth and of human culture.

The amazing thing is that classical studies continue to appear in such large number and in such volume, in spite of the present status of the Classics in American Education. Since Greek and Latin were placed on the elective list in American college curricula, the number of college students attracted to the study of the languages of Greece and Rome has fallen off mightily. Lecture courses, however, on Greek and Roman civilization have drawn students in large numbers, and books on the subject have appeared in a steadily increasing stream; such works seek to record and evaluate the life and thought of ancient Greece and Rome. This has been done with much skill by M. Cary and T. J. Haarhoff in *Life and Thought in the Greek and Roman World* (Methuen, London; Crowell, N. Y., 1942). In *THE AMERICAN YEAR BOOK*, 1941, attention was called to *Classical Civilization in Rome*, by R. M. Geer, which is typical of such works. At New York University a course in the history of Greek and Latin words and, in particular, a study of their influence on the Romance languages and on English, has become

\*Periodicals are abbreviated as follows: A H R, *American Historical Rev.*; A J A, *American Journal of Archaeology*; A J P, *American Journal of Philology*; C B, *Classical Bulletin*; C J, *Classical Journal*; C O, *Classical Outlook*; C P, *Classical Philology*; C Q, *Classical Quarterly*; C R, *Classical Rev.*; C W, *Classical Weekly*; H S C P, *Harvard Studies in Classical Philology*; H Th R, *Harvard Theological Rev.*; Is., *Isis*; J H I, *Journal of History of Ideas*; J R S, *Journal of Roman Studies*; Lang., *Language*; Ph Q, *Philological Quarterly*; Spec., *Speculum*; P A P A, *Proceedings of the American Philological Association*; T A P A, *Transactions of the same*; Verg., *Vergilius*; Y C S, *Yale Classical Studies*. (all references are to 1942)

Bibliographical information will be found in lists of "Recent Publications," appearing in C W, and in "Recent Books," listed in C J, as well as under "Classical Articles in Non-Classical Periodicals" which C J also publishes.

well established. Such studies in the adventures of words are of utmost importance to prevent a Bedlam in American speech. E. E. Burriess and L. Casson have called their book *Latin and Greek in Current Use* (Prentice-Hall, Inc., 1940), and their example has been followed by R. H. Tanner, L. B. Lawler, and M. L. Riley, *Adventures in Language* (Prentice-Hall, Inc., 1941). In this report, a detailed review of published work is hardly possible but attention will be called to significant reviews of books.

Any account of the literary activity of classical scholars gains in meaning against the grim background of the day and gives particular significance to the exposition of Sir R. Livingstone, *The Classics and the National Life* (Oxford U. Press, 1941), which restates the claims of the Classics, and reaffirms the faith of English classical scholarship in a classical training for a deeper understanding of life in its broader issues and historical perspective. Attention may be called to recent pronouncements on the same general theme by Nelson G. McCrea, "The Coming Years" (*C J* 37, 390-399) and W. C. Korfmacher's "The Claim of the Classics in These Our Days" (*C J* 38, 133-141).

At the request of the Washington Office of Education, a national Committee prepared a careful report on the function of "The Classics in a War-Time Education," which points out the essential value of the study of Greek and Latin for language study and the extraordinary importance of **lecture courses on Greek and Roman civilization**, today, for purposes of international understanding and permanent peace. The Committee that prepared the report consists of George Depue Hadzsits, Chairman (Univ. of Pennsylvania), Casper J. Kraemer, Jr. (New York Univ.), Mason Hammond (Harvard), Louis E. Lord (Oberlin), and Walter R. Agard (Univ. of Wisconsin).

*Studies in the History of Culture: Discipline of the Humanities* (Menasha, Wis., Banta Publ. Co., 1942) includes essays by a group of distin-

guished scholars in a great variety of fields—all, however, contributing to the unity of humanistic training. It is dedicated by the American Council of Learned Societies to W. G. Leland. This book is eloquent testimony to the values of humanistic studies and the imperative need of maintaining them for culture and clear scholarship in life.

#### GENERAL

K. Guinagh and A. P. Dorjahn, *Latin Literature in Translation* (Longmans, Green) is an anthology of passages in Latin literature in translation. Such works are invaluable in lecture courses on Greek and Roman civilization. This book has many translations that appear, here, for the first time. Twenty-eight Latin authors, from Plautus to Saint-Augustine, represent a long span of time, but this survey of literature is a fine review of the literature developed in ancient Rome. Brief accounts of authors' lives and their works precede the selections themselves.

Work on the *Thesaurus Linguae Latinae* is necessarily suspended for the duration of the war. The huge *Thesaurus* will be a landmark in the history of classical studies.

A. Ernout et A. Meillet, *Dictionnaire étymologique de la langue latine: histoire des mots* (Paris, Klincksieck, 1939). This work is of fundamental and permanent importance. For an appreciation, appearing during 1942, see *A J P* (63, 374-375). Scholars will associate Ernout and Meillet's language studies with A. Walde's *Lateinisches etymologisches Wörterbuch*, which, revised by J. B. Hofmann, is now in its third edition. The two great works supplement each other and will, for long, be invaluable. Italian scholarship has also made lasting contributions to the study of the language in Giacomo De Voto's *Storia della lingua di Roma*, vol. xxiii of "Storia di Roma" (Bologna, Istituto di studi Romani, 1940).

Pauly's *Real-Encyclopädie der classischen Altertumswissenschaft*, Georg Wissowa, Wilhelm Kroll,

Karl Mittelhaus, vol. xxi (Stuttgart, Metzler, 1941). In America, a huge classical project of this magnitude has never been undertaken, but it is gratifying to have American scholarship represented. In this volume,—B. E. Perry is conspicuous because of his important article, entitled "Physiologus." It is likely that this volume will be the last to reach us in America for the duration of the war.

Prof. Roy J. Deferrari and his associates have prepared *A Concordance of Ovid* (Catholic Univ. of America Press, 1939). Indices of Greek and Latin authors have multiplied in recent years, and this concordance-index is conspicuous among them all because of its completeness and accuracy. There are no less than 252,000 entries and the huge work of 2,220 pages will be invaluable for scholars, who may, however, regret the failure of this Concordance to give variant readings.

#### LITERATURE

Miss Hilda Buttenwieser has in preparation an elaborate *Catalogue of The Extant Manuscripts of Latin Classical Authors through the 13th Century* and her article, "Popular Authors of the Middle Ages: the Testimony of the Manuscripts," appearing in *Speculum* (17, 50-55), corrects many errors that have been repeated in editions and in handbooks of Latin Literature which have falsely reported the number of manuscripts in existence. Information about Horatian manuscripts is inaccurate even in such works as those of Schanz and Sandys. Miss Buttenwieser is altering scholarly opinion about the relative development of the Renaissance movement in the twelfth and thirteenth centuries.

G. E. Duckworth has edited *The Complete Roman Drama: Plautus, Terence, Seneca* (Random House). This admirable presentation of the three great Roman dramatists, in English translation, is in line with the present great movement to bring the ancient classics within the reach of English readers—a movement of

which the *Loeb Classical Library* is a conspicuous example. One of the volumes in that Series appearing in 1942 is that of H. Rackham, who translates Pliny's *Natural History* (vol. II, Books 3-7). Other volumes in the *L.C.L.* listed as of 1942 by the Harvard University Press are *Cicero, De Oratore* (2 vols.), by E. W. Sutton and H. Rackham, giving Books 1-3 of Cicero's treatise in translation, but also the three essays, *De Fato, Paradoxa Stoicorum*, and the *De Partitione Oratoria; Columella* (vol. I, Books 1-4 of the *Res Rustica*), by H. B. Ash; this less-well-known Latin work is the most comprehensive and systematic treatise extant, on agricultural affairs, by any Roman author. The *L.C.L.* volumes have now gone beyond a total of 350.

Another volume, published independently, is *The Complete Works of Tacitus*, translated by A. J. Church and W. J. Brodribb, carefully edited, with an excellent introduction by Moses Hadas (Modern Library).

Henry J. Haskell, author of an earlier volume, *The New Deal in Old Rome*, has published *This Was Cicero* (Knopf), a notable contribution to our literature on Cicero, because of its vitality and the author's insight into politics and his knowledge of the mind of the politician.

Gilbert Highet argues that the themes and the moral intention of Petronius were those of a true satirist—this is in opposition to the generally held views that Petronius was anything but a moralist. However, in "Petronius the Moralist" (*T A P A* 72, 176-194), a powerful defense of Petronius is offered to show that he criticised the world from the point of view of Epicurean morality and that he is entirely within the tradition of earlier and contemporary satire. This bold view represents the *Satirica* as masterpieces of "Epicurean superiority, in which something of the old Roman courage still survived."

The Review of Augusto Rostagni: *La Letteratura di Roma repubblicana ed augustea* (Bologna, 1939), appearing in *A J P* (63, 92-104), is of importance for pointing out that this

work, which is volume xxiv in the enormous new Italian *History of Rome* (*Storia di Roma*) Series, is animated by a Fascist spirit to glorify Fascist Italy and its capital and to justify the policy of the Fascist party by forced identification of its ideals with the greatest and best of the past. Professor Highet performs a valuable service in warning us that this impressive work is not and can not be reliable literary history.

## LATIN DRAMA

John N. Hough vigorously returns to a defense of his thesis that the inconsistencies in plot, character, or other ingredients of drama, in the plays of Plautus "considered merely as such, are no evidence of contamination." J. N. Hough, K. M. Abbott, G. E. Duckworth, H. W. Prescott, and P. W. Harsh are among the leading students in American life whose studies of Roman drama have been of great significance. Inconsistencies of a real, anti-dramatic nature in the *Captivi* are studied to prove that Ergasilus is taken from a foreign source, a Greek parasitic play. All such studies of adaptation are of importance in understanding the Latin drama. (See "The Structure of the *Captivi*" *A J P* 63, 26-37.) High praise has been accorded Professor Duckworth's *T. Macci Plauti Epidicus* (Princeton Univ. Press, 1940), which has been called the "definitive edition" of the *Epidicus* and a "monument of splendid scholarship" (*C J* 38, 107-109) by the competent Plautine scholar, Prof. Paul Nixon.

H. W. Prescott continues his studies in Roman drama with a discussion of "Exit Monologues in Roman Drama" (*C P* 37, 1-21). This is not a merely technical discussion, howsoever erudite, of an item of importance in the management of ancient drama, but Professor Prescott raises the subject to a higher level of recognition of soliloquy as a "racial characteristic of the Greeks and Italians, which emerged naturally in the drama as the organic chorus disappeared."

## MEDIEVAL AND RENAISSANCE MANUSCRIPTS IN THE U. S.

*The Census of Mediæval and Renaissance Manuscripts in the United States and Canada*, prepared by Seymour de Ricci and W. J. Wilson, is a monumental and invaluable work. Samuel A. Ives has performed a valuable service in preparing his "Corrigenda and Addenda to the Descriptions of the Plimpton Manuscripts—as recorded in the *De Ricci Census*" (*Speculum* 17, 33-49). The Plimpton manuscripts, in the Columbia University Library, number over 300. Dr. Ives' report raises doubts about the correctness of data offered for all other collections listed in the *De Ricci Census*.

## LATIN POETRY

An illuminating article on the "Repetitive Style in Virgil" (*T A P A* 72, 212-225) is offered by William Francis Jackson Knight, to show the relation of repetitive principles to the development of Virgil's style. This article represents a new form of interpretation of Virgil's art, and the principles employed appear in recent studies of the art of Catullus, Lucretius, and Homer. The results add, greatly, to our understanding of poetry in general, and, in particular, of the poetry of Greece and Rome.

*T. Lucreti Cari De Rerum Natura, Libri Sex*, edited with Introduction and Commentary by W. E. Leonard and S. B. Smith (Univ. of Wisconsin Press), is a handsome edition of which American scholarship may be proud. Professor Leonard, a poet in his own right and translator of Lucretius' poem into English, has contributed an introductory essay on "Lucretius: The Man, The Poet, and the Times," which will count for a long time as one of the most important analyses of the complex problems suggested by the title. Professor Smith's "Introduction to the Commentary" is a masterly exposition of topics, such as the text of Lucretius, the manuscripts and editions, the elements of Lucretius' diction and style. Eight fine plates are presented, including a page of the *Codex Oblon-*



gus, one of the *Codex Quadratus*, and a bust of Epicurus. This volume is one that marks a milestone in the history of Lucretian editions.

Particular attention should be called to the masterly review by Brooks Otis (*A J P* 63, 467-472) of Félix Peeters' *Les "Fastes" d'Ovide, Histoire du Texte* (Brussels, Georges Van Campenhout, 1939), both because the Review is an excellent exhibition of American scholarship and because Peeters' book is quite monumental in character, bringing together and up to date commentary on all earlier studies of every kind, bearing upon the *Fasti* of Ovid, from their creation in the poet's mind to the present day. Scholars will not all subscribe to some of Peeters' views on the text-history.

John Paul Pritchard's *Return to the Fountains* (Duke Univ. Press) will be found stimulating. It is an excellent study of fifteen American authors and literary critics of the nineteenth century and their indebtedness to Aristotle's *Poetics* and Horace's *Ars Poetica*. The fifteen are Bryant, Poe, Emerson, Thoreau, Hawthorne, Longfellow, Holmes, Lowell, Stedman, Howells, Woodberry, Brownell, Babbitt, More, and Sherman. Their indebtedness to the ancients was very large.

#### PHILOSOPHY AND RELIGION

Of first-class importance is "The History of the Chalice of Antioch" (*Biblical Archaeol.* 4, 50-64; 5, 10-16), by H. H. Arnason. The question of authenticity of the chalice, its provenance, and its date are all discussed; its authenticity is defended; the provenance remains doubtful; the fourth-fifth century period is accepted as correct. The article is a digest and criticism of the important books and articles dealing with the chalice, and it is accompanied by a number of photographic illustrations.

Mrs. Aline Abaecherli Boyce reopens the question of the *ludi saeculares*, as conducted in the age of Severus,—in particular, the rites of the third day of the *ludi*, when the *carmen saeculare* was sung. The pro-

cession was the leading feature of these ceremonies and provided the setting for the singing of the hymn. That procession began on the Palatine and came to a climax at a station on the Capitol, terminating at two structures, within the original region of the secular rites along the Tiber, viz. a wooden theatre and a temporary circus. This article, appearing in the *T A P A* (72, 36-48), is entitled "Processions in the Acta Ludorum Saecularium."

"Zeno of Elea's Attacks on Plurality" by Hermann Fränkel (*A J P* 63, 1-25 and 193-206) is a brilliant exposition of the importance of Zeno's paradoxes of motion, fully recognized as subtle and profound by students of mathematics and philosophy and by classical scholars of philosophic bent.

Students of Lucretius will read with interest W. M. Green's "The Dying World of Lucretius" in *A J P* 63, 51-60. It is, of course, well-known that Epicurus had discussed the problems of creation and of destruction of the many worlds in the infinite universe, but the point that Professor Green makes—that the idea of the immanent destruction of this world is Lucretius' rather than Epicurus' view—is extremely interesting and important. It has its obvious bearing upon the historical outlook of both men, and this essay becomes a valuable contribution to the extensive literature concerned with the Roman philosopher-poet.

Phillip De Lacy's "Cicero's Invektive against Piso" (*T A P A* 72, 49-58) gives a presentation of the old animosity that existed between Cicero and Piso, as revealed in Cicero's speech, "In Pisonem." Dr. De Lacy undertakes to prove the interesting hypothesis that the fact that Piso was an Epicurean was one of the principal grounds for the attack. More than that, Dr. De Lacy shows that this particular invective embodies the general anti-Epicurean arguments of the current philosophical literature against Piso, the individual, without supporting evidence to prove their particular validity in Piso's case.

Dr. Adelaide D. Simpson reviews the reasons that led to association of Epicureans with Christians in popular disfavor in the second century of the Christian era, and her account is as interesting as it is important. More than that, Miss Simpson advances the striking suggestion that the two Christians, Octavius and Minucius, in the *Octavius* of Minucius Felix, had originally been Epicureans, not Stoics, as has been commonly supposed. (See *T A P A* 72, 372-381), "Epicureans, Christians, Atheists in the Second Century."

Francis A. Sullivan sums up questions and discussions suggested by the title: "Horace and the After Life" (*C P* 37, 274-287). Such inventories of theories and of speculation are altogether justified, even if no new conclusions are reached. It is important to emphasize the Roman view of the after life as a dim existence that could bring little joy to the minds of the living but requiring the exercise of memory on the part of the living as a duty and obligation to the dead. There is stuff for character-building in such a creed. Horace's chief consolation lay in his belief in his own immortality in fame.

With her well-known thoroughness, Miss L. R. Taylor prepares a list of "Caesar's Colleagues in the Pontifical College" (*A J P* 63, 385-412). Professor Taylor goes beyond earlier investigations in seeking criteria "to determine the order of election of the majority of the pontifices," from the time of Caesar's election in 74-73 B.C., to his death in 44 B.C. This study further involves consideration of patrician and plebeian memberships and the record of other priests who sat with the major pontiffs (after Sulla), the *rex sacrorum*, *flamines* of Mars and Quirinus, and a few *pontifices minores*.

## HISTORY

The brilliant article in *C P* (37, 385-397), on "The Enigma of Horace's Mother," by W. H. Alexander, will undoubtedly cause further discussion, even if the question may never be

settled. All lovers of Horace's poetry and personality will be led to wonder, anew, about his parentage, and wonder whether this child of all the ages was, as is here so thoughtfully argued, the son of a Levantine Greek and of a Jewish mother. The problem is one of utmost significance, and the correlations, suggested, between Horace and Heine are most suggestive.

"The Romans in Southern Gaul" (*A J P* 63, 38-50), C. H. Benedict, re-opens a subject of importance in the history of Roman conquest, after 125 B.C. The Roman policy was all in the direction of conquest, and Caesar's victories were but the culmination of that movement. Dr. Benedict's studies are concerned with the sequence of events during the years 124-120, and he is interested in clearing up "contradictions" in the sources.

*Italic Tomb-Groups in the University Museum*, by Mrs. Edith Hall Dohan (Univ. of Pennsylvania Press, 1942), is an excellent volume. All of the various objects contained in these 29 tomb-groups are carefully listed and described, and there are many figures and drawings, and some excellent plates. All of these materials had been in the keeping of the University Museum since the "nineties," but publication has become possible only now. The date of these objects is not easily determined, but 680-650 B.C. is proposed as the approximate date. Foreign influence, whether Greek or Etruscan, is obvious and significant. It is important for American education to refer to the magnificent work of D. M. Robinson, *Excavations at Olynthus*, Part XI, *Necrolynthia, A Study in Greek Burial Customs and Anthropology* (Johns Hopkins U. Press, 1942), which gives a catalogue of 600 graves and their contents.

Kurt von Fritz, in a learned article "The Mission of L. Caesar and L. Roscius in January 49 B.C." (*T A P A* 72, 125-156), offers a penetrating study of Caesar's motives in the fateful years before 49 B.C., when the Civil War broke out, and seeks to establish the truth against the

pontifical judgments of the historian, Theodore Mommsen. This kind of study is of permanent value as a study of human nature.

The drama of the Gracchi is reviewed by S. Katz, in the *C J* (38, 65-82), in an extremely interesting article that ought to be brought to the attention of the layman whose interest it would hold: "The Gracchi: An Essay in Interpretation." The reforms in the social structure of the state, undertaken by Tiberius Gracchus, were supplemented by the moderate political reforms of Gaius Gracchus who attempted constitutional and political innovations because of opposition to those earlier moderate reforms. The tragedy of the Gracchi lay in the opposition of the senatorial oligarchy which wished to maintain the *status quo*—and this episode in Roman history ought to be kept before men's minds as a constant reminder of the irony of misunderstanding the Reformer, as a Radical or Demagogue.

L. A. MacKay discusses the famous phrase: "Maecenas atavis edite regibus"—with a view to establishing the fact that Maecenas' own pride of ancestry was justified, on the mother's side, because of connection with the great family of the Cilnii, but on the father's side the record is far from clear. Maecenas "made capital out of the apparent disadvantage of non-Roman ancestry"; but the father of Maecenas seems to have been a man identified with the old Marian party, Perperna's Scribe, obscured in the "legendary glories of Etruscan royalty." (See *C P* 37, 79-80.)

The well-known handbook, *The Daily Life of the Greeks and Romans*, as illustrated in the Collections in the Metropolitan Museum in New York City, has been revised, and it now appears in its sixth edition. All teachers of Latin and Greek ought to make it accessible to their students. Originally Helen McClees' work, it has received additions from Christine Alexander (publ. by the Metropolitan Museum of N. Y., 1941). The 13 chapters cover many themes, such as religion, the drama, houses and furni-

ture, education, dress and toilet, burial customs. It is hardly necessary to dwell upon the importance of museum collections for the teaching of the Classics. This book may well be compared with the invaluable publication of the British Museum: *A Guide to the Exhibition illustrating Greek and Roman Life*, which is certainly a model in its own class.

In "Rome and the 'Road of Hercules'" (*T A P A* 72, 59-69), Norman J. De Witt discusses the history of that fabulous route across southern Gaul which was associated with Hercules and followed by Hannibal. The *Via Domitia* followed the "Road of Hercules," and its maintenance was a strategic necessity for Caesar whose conquest of Gaul at length put an end to this historic strategic problem.

#### FINALIA

Under this head may be gathered items that have not, for a variety of reasons, been discussed before. Classical scholarship ranges over a wide field. R. O. Fink deserves praise for his courage in seeking to correct errors in the conclusions of Mommsen, and his paper, "Mommsen's *Pridianum: B G U* 696" (*A J P* 63, 61-71), is convincing. A. T. Olmstead discusses "The Mid-Third Century of the Christian Era" (*I, C P* 37, 241-262, and *II, C P* 37, 398-420). Gibbon had emphasized its significance as a turning-point in world history. See the review of Paul Pöstgens' *Tibulls Ambarvelgedicht* (*A J P* 63, 352-355), by Prof. H. T. Rowell for a needed caution to classical students not to be misled by inadequate interpretations of Latin poetry, as poetry.

The *H S C P* vol. 53 of 1942 has two articles—"Some Aspects of Invisibility" by A. S. Pease, and "Donatus and the Scholia Daniels: A Stylistic Comparison" by A. H. Travis. Professor Pease's presidential address "Caeli Enarrant" had appeared in the *H Th R* 34, 163 ff., while Dr. Travis' work reminds us of Professor Rand's profound studies in Servius: these have inspired a number of new chapters of interpretation of fourth century scholarship.

The great variety of studies, concerned with "Latin literature," is well illustrated by the following titles, (*T A P A* 72): "The Political Atmosphere of the Reign of Tiberius," by Walter Allen, Jr., pp. 1-25; "The Study of Physiognomy in the Second Century A.D.," by Elizabeth C. Evans, pp. 96-108; "The *Sponsalia* of a *Classarius*," by Robert O. Fink, pp. 109-124; "The *Dux Ripae* at Dura," by J. Frank Gilliam, pp. 157-175; "Claudian's *In Rufinum*," I. 83-84 and a Vatican Vase-Painting," by Harry L. Levy, pp. 237-244; "Literary Criticism in the Mediaeval Commentaries on Lucan," by Berthe M. Marti, pp. 245-254; "Varro Murena," by William C. McDermott, pp. 255-265; "Artemidorus and the Physiognomists," by Roger A. Pack, pp. 321-334; "The Prefects of Egypt under Tiberius," by Robert Samuel Rogers, pp. 365-371; "Cicero and *Gloria*," by Francis A. Sullivan, pp. 382-391. The following should also be noted: "By Their Fruits Ye Shall Know Them," by W. L. Carr (*C J* 37, 334-350); "Curriculum Revision and the Latin Course," by Mildred Dean (*C J* 37, 275-280); Carl Grant's defense of foreign language study, *School and Society*, 55, April 11, 1942, and A. M. Withers on the relation of modern language study to Latin, *S. and S.*, 55, April 18, 1942; "The Later Paganism," by Harold Mattingly (*H Th R* 35, 171-179); *Jesus in the Light of History*, by A. T. Olmstead (Scribner); "The Ptolemaic Copper Inflation, ca. 230-140 B.C.," by A. Segré (*A J P* 63, 174-192); "Caesura Rediviva," by O. J. Todd (*C P* 37, 22-37); *The Roman Imperial Navy, 31 B.C.-A.D. 324*, by Chester G. Starr, Jr. (Cornell U. Press, 1941).

Extremely important items, deserving full discussion which is not possible here, are: John Day, *An Economic History of Athens under Roman Domination* (Columbia Univ. Press); "Changing Conceptions of Literary and Philological Research,"

by Tenney Frank (*J H I* 3, 400-414); John Sparrow, *Poems in Latin, together with a few Inscriptions* (London, Milford, 1941); "December 25th, Christmas Day," by A. H. Weston (*C O* 20, 25-27); A. W. Van Buren's annual "News Items from Rome" (*A J A* 46, 428-440); George McCracken, "The Villa and Tomb of Lucullus at Tusculum" (*ibid.*, 325-340); Geo. K. Boyce, "Significance of the Serpents in Pompeian House Shrines" (*ibid.*, 13-22).

One of the latest expressions on the values of classical education is that of the scholar and poet, Gilbert Murray, whose article "The Classics" appears in *The Fortnightly* (No. 907 N.S., July 1942, 37-40). His two articles of faith may be defined as resting on the convictions (1) that real appreciation of quality in literature and art can be reached only through first-hand knowledge of the ancient masterpieces, and (2) that the historical view, the knowledge of our common heritage—while not securing absolute truth—provides an indispensable unifying and stabilizing influence which alone can protect human intelligence from all of the treacherous falsehoods of the ephemeral.

Other 1942 publications include: Margaret Bieber, *Laocoön. The Influence of the Group since its Rediscovery* (Columbia Univ. Press); Wilmon Brewer, *Ovid's Metamorphoses in European Culture*, Books 1-10 (Boston, Marshall Jones); Brookes Moore, *Ovid's Metamorphoses in English Blank Verse*, Books 1-10 (Boston, Marshall Jones); George Henry Chase and Mary L. Pease, *Corpus Vasorum Antiquorum*, U. S. of America, fasc. 8, Fogg Museum and Gallatin Collections (Harvard Univ. Press); Edgar J. Goodspeed, *A History of Early Christian Literature* (Chicago Univ. Press); Edith Hamilton, *Mythology* (Little, Brown); and E. K. Rand, *The Building of Eternal Rome* (Harvard Univ. Press).



## GREEK LITERATURE

BY WILLIAM STUART MESSER  
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## LOEB CLASSICAL LIBRARY

*Greek Literary Papyri* (vol. 1), D. L. Page, with a second volume to come, aims to contain all the Greek poetry, not otherwise disposed of by the Loeb Library, which has been recovered from Papyri. *Greek Mathematical Works* (vol. 2), I. Thomas, completes the selections illustrating the history of Greek mathematics. *Philo* (vol. 9), F. H. Colson, contains six treatises presenting ample proof of the versatility of Philo's mind.\*

## LANGUAGE, LITERATURE, AND LITERARY CRITICISM

In the field of Homer there is little to record. F. W. Jones, in an article entitled "The Formulation of the Revenge Motif in the *Odyssey*" (*TAPA* 72, 195 ff.), shows how Homer keeps the dominant theme of vengeance before the attention by the technical emphasis given to it in books 1 and 2. W. H. Willis, in "Athletic Contests in the *Epic*" (*TAPA* 72, 392 ff.), discusses funeral games in the epic tradition and measures the value of the prizes as evidence. G. E. Mylonas tries to integrate data from Kourouniotes' excavations and from the Demeter hymn in an interpretation of the site of Eleusis (*Washington University Studies, Language and Literature*, 1942).

A book sure to attain its aim of dignified popularizing is *Three Greek Tragedies in Translation*, by D. Grene (Univ. of Chicago Press, 1942); the plays, *Prometheus*, *O. T.*, and *Hippolytus*, are admirably translated with scholarly introductions.

\* Abbreviations: *AJA*, *American Journal of Archaeology*; *AJP*, *American Journal of Philology*; *CJ*, *Classical Journal*; *CP*, *Classical Philology*; *CW*, *Classical Weekly*; *HSCP*, *Harvard Studies in Classical Philology*; *Hes.*, *Hesperia*; *TAPA*, *PAPA*, *Transactions, Proceedings of the American Philological Association*. Titles of books, monographs, and periodicals are italicized; those of articles are in quotation marks.

In a new feature in the *Classical Weekly*, "Comment and Conjecture," here on Aeschylus (*CW* 35, 278 ff.), H. N. Couch gives a subtle analysis of Pelasgus in the *Suppliants* and H. W. Miller discusses medical terms in Aeschylus. C. Bonner contributes interpretative notes on passages in the *Agamemnon* and the *Choephoroi* (*CP* 37, 263 ff.). J. S. Kieffer, in "Philoctetes and Arete" (*CP* 37, 38 ff.), compares the Sophoclean conception of *arete* with that of Aeschylus and of Euripides in their (lost) plays on Philoctetes and finds a kinship of Sophocles with Plato. G. M. Kirkwood questions Kitto's theory that Heracles is the central figure in Sophocles' *Trachiniae* and Deianeira only an incident in the hero's life (*TAPA* 72, 203 ff.). According to E. G. O'Neill, "The Prologue of the *Troades* of Euripides" (*TAPA* 72, 288 ff.), the devil of this play is Victory, who corrupts the victors, and that is what makes it a great anti-war play. E. P. Trammell finds in the three-day silence of Alcestis in Euripides' play an ingenious invention to glorify her resurrection amidst the stillness of the tomb (*CJ* 37, 144 ff.). H. L. Stow, in "Aristophanes' Influence upon Public Opinion" (*CJ* 38, 83 ff.), finds the influence of the great Attic comic poet on his Athenian audiences quite slight.

F. P. Donnelly, in *Demosthenes on the Crown* (Fordham Univ. Press, 1941), reprints unrevised the translation and notes of F. P. Simpson of 1882, but adds rhetorical analyses of the speech that are valuable. F. W. Lenz maintains convincingly that the Leptinean declamations attributed to Aristides are the work of a Byzantine author and scholar, Thomas Magister (*AJP* 63, 154 ff.). In "Plato's Epitaph" (*AJP* 63, 272 ff.), J. A. Notopoulos weighs the problem of Steinepigram and Buch-

epigram and favors the epigram of Speusippus as the genuine epitaph of Plato. A new Greek epigram on stone is identified by P. Friedlaender as the composition of Damagetus of the Palatina and Planudea (*AJP* 63, 78 ff.). R. Lattimore's monograph, *Themes in Greek and Latin Epitaphs* (Univ. of Ill. Press, 1942), collecting these epitaphs from their various sources, shows the light they throw on how the ancients interpreted death and their attitude toward it.

H. L. Tracy writes briefly on Plutarch's biographical method, showing that he is a keen psychologist and chooses his materials as a dramatist would (*CJ* 37, 213 ff.). E. Olsen analyzes the argument of Longinus' *On the Sublime* and concludes that the dialectical apparatus which underlies the work has been neglected (*Modern Philology* 39, 225 ff.). F. W. Householder tabulates with completeness the literary references in Lucian and therefrom throws light on the rhetorical education of the early empire, *Literary Quotation and Allusion in Lucian* (Kings Crown Press, N. Y., 1941). A searching review of A. Hausrath's *Corpus Aesopicarum Fabularum* by B. E. Perry deserves inclusion here, containing strictures upon the accuracy and consistency of Hausrath's theories which can not be ignored (*CP* 37, 207 ff.). Other items under this head are: W. K. Prentice, *Those Ancient Dramas Called Tragedies* (Princeton Univ. Press, 1942); G. M. A. Grube, *The Drama of Euripides* (Saunders, Toronto, 1941); and E. T. Owen, "The Drama of the Agamemnon" (*University of Toronto Quarterly*, xi, No. 2, 1942).

#### INSCRIPTIONS AND PAPYRI

In three papers (two in *CP* 37, one in *TAPA* 72, 70 ff.), S. Dow publishes his studies in the Athenian tribute lists, suggesting chronological changes and epigraphic controls in restoring the names of cities. J. H. Oliver contributes a third instalment of Agora inscriptions, a study of the growth of Roman citizenship in Athens based on the prytany lists (*Hes.* xi, 29 ff.);

and, also, interpretations and emendations of inscriptions from different points of the Near East (*AJA*, 45, 537 ff.).

In a paper entitled "Line Omissions in Homeric Papyri" (*CP* 37, 299 ff.), S. T. Vandersall proves by examination of the papyri for the last ten years the validity of Bolling's principles for detecting interpolations in the Alpha text. C. Bonner has discovered in the Michigan papyri a new historical fragment of the shadowy Nicocrates (*TAPA* 72, 26 ff.). H. C. Youtie adds to his notes on the Michigan Ostraca in three papers (*AJP* 63, 72 ff., *CP* 37, 142 ff., and *TAPA* 72, 439 ff.). The same writer, in a good review of the *Tebtunis Papyri* (Vol. 3, Part 2), underscores the data of interest and importance in this collection, which appears at first sight of value only to the specialist (*AJP* 63, 244 ff.). H. T. Wolff suspects a primitive element in Greek law to exist in Hellenistic Egypt "The Praxis-Provision in Papyrus Contracts" (*TAPA* 72, 418 ff.). Further notes on seven documents published in different collections of papyri by H. C. Youtie and O. M. Pearl appear in *AJP* (63, 294 ff.).

#### HISTORY AND CIVILIZATION

Elmer Davis' statement that the minimum bibliography for an understanding of the present scene was *Mein Kampf* and *Thucydides* is well illustrated in a fresh, vigorous, charming study by J. H. Finley, *Thucydides* (Harvard Univ. Press, 1942); the author does not draw the modern parallels, but the implications are unavoidable. In a convenient work of two volumes, *The Greek Historians* (Random House, 1942), F. R. B. Godolphin has collected, with introductions and notes, the complete unabridged works of Herodotus, Thucydides, Xenophon, and Arrian. A popular explanation of the Greek conception of democracy and a fair statement of the good and bad in Athenian polity are given in W. R. Agard, *What Democracy Meant to the Greeks* (Univ. North Carolina Press, 1942). R. J. Bonner and G.

Smith in "Administration of Justice in Sparta" (*CP* 37, 113 ff.) add to their valuable discussion of the administration of justice from Homer to Aristotle this study of criminal and civil justice in Sparta from what can be pieced together of trials in fifth and fourth century Sparta. R. K. Hack reviews W. Jaeger's *Paideia: The Ideals of Greek Culture* in an article which contributes much that is worth while for a correct understanding of Greek culture.

*The Greek Political Experience* is an interesting volume of studies in honor of W. K. Prentice (Princeton Univ. Press, 1941): 13 sketches of different aspects of Greek life, such as "Democracy at Athens" (G. M. Harper), "Athens and the Delian League" (B. D. Meritt), "Ptolemaic Egypt: A Planned Economy" (S. L. Wallace), etc. Short notes on historical matters by J. L. Caskey, Ernst Riess, and others will be found in "Comment and Conjecture on Greek History" (*CW* 35, 267 ff.). L. Pearson has examined the credulity and scepticism of Herodotus, pointing out the types of evidence toward which he was credulous or sceptical (*TAPA* 72, 335 ff.). J. Day has written *An Economic History of Athens under Roman Domination* (Columbia Univ. Press, 1942). K. Pritchett, in "The Tribe Ptolemais" (*AJP* 63, 413 ff.), examines the date of its creation, the assignment of demes, the trittys division, and the original tribal affiliation of Ptolemais. T. R. S. Broughton is sceptical of a huge ancestral treasure of the Ptolemies lasting to Cleopatra's time and attributes her wealth to plunder from murdered rich men and the most sacred shrines (*AJP* 63, 328 ff.). In "Cleisthenes of Sicyon and the Panhellenic Festivals" (*TAPA* 72, 266 ff.), M. F. McGregor, with the aid of a recently discovered inscription, reconstructs the entire chronology of Cleisthenes' reign and maintains that only two panhellenic festivals owe their founding to tyrants. F. W. Lenz, in "The Athenian Strategoi of the Years 441/40 and 433/32" (*TAPA* 72, 226 ff.), recognizes 11 strategoi for these two years,

explaining it as plausible that Pericles had Glaucon elected as his proxy more than once. In "Apollodorus and the Speech against Neaera" (*AJP* 63, 257 ff.), G. H. Macurdy would strip Apollodorus of his modern reputation for noble patriotism and would make Demosthenes the real prompter of the suit against Neaera.

#### ART AND ARCHAEOLOGY

The year has seen a continuation of the study and publication of previous excavations by many scholars who would normally be engaged in field work on the various sites. *Hesperia* xi, No. 3 contains the 22nd report on the Agora dig, with studies of coins, the Thesmophorion in Athens, restorations and interpretations of numerous inscriptions, and addenda on Attic prosopography. E. P. Blegen, in "News Items from Athens" (*AJA* 45, 631 ff.), records the state of the museums of Greece, where bombs fell, what was damaged or entirely destroyed, as of the date of Nov. 13, 1941. T. E. Mommsen describes from partly new and unused sources the destruction of the Parthenon in 1687 by the Venetians under Morosini (*AJA* 45, 544 ff.). In *Observations on the Hephaisteion* (*Hes.* Supplement V, Harvard Univ. Press, 1941), W. B. Dinsmoor dates the beginning of the temple in 449 B.C., rejects its old interpretation as a "Theseum," and discusses many new items on this shrine afforded by the Agora excavations.

An interesting study of the neglected 2 3/5-mile Aigaleos-Parnes wall has been made by S. Dow (*Hes.* xi, 193 ff.), who describes its system of "indented trace" and dates it earlier than the Persian wars. R. S. Young in "Graves from the Phaleron Cemetery" (*AJA* 46, 23 ff.), finds data of help in determining the chronology of vases in the evidence of Protocorinthian and Protoattic shapes. From the American excavation at Corinth, G. D. Davidson (*Hes.* xi, 105 ff.) reports and describes a Hellenistic deposit of coins, lamps, figurines of terra cotta, etc., the probable stock in trade of a shop. W. M. Felts has

worked out through petrographic examination certain formulae, of admittedly restricted application, for determining dates, provenance, etc., of potsherds at Troy (*AJA* 46, 237 ff.).

In an article entitled "The Megaron and its roof" (*AJA* 46, 99 ff.), E. B. Smith traces the evidence for the megaron in Asia Minor, Thessaly, and the Danube regions.

*Antioch on the Orontes, The Excavations of 1937-1939*, vol. 3 (Princeton Univ. Press 1941), by R. Stillwell and others, is the third volume published of the final studies, superbly printed and illustrated, and reports on the finds of the last three campaigns: lamps, inscriptions, sculpture, mosaics, and Christian monuments. The publications on Olynthus continue promptly under the editorship of D. M. Robinson: *Excavations at Olynthus, Necrolynthia*, Part XI, catalogues 600 graves with plan and map and contains enough material for a general correlation of Greek burial customs. G. E. Mylonas compares the finds from Akropotamos in eastern Macedonia with those from other neolithic sites of Macedonia and Thessaly (*AJA* 45, 557 ff.). J. Sperling, in "Explorations in Elis" (*AJA* 46, 77 ff.), traces the growth of early Helladic civilization in the section between the Peneios and the Alpheios.

*Corpus Vasorum Antiquorum*, U. S. A. Fasc. 8, Fogg Museum and Gallatin Collections, Part 2, by G. H. Chase and M. L. Pease (Harvard Univ. Press, 1941), completes the entry for these collections, of which the Gallatin contains more than 250 items without a single forgery in the lot. J. D. Beazley contributes to *AJA* 45, 593 ff. some 18 notes on inscribed vases with new readings and interpretations.

B. D. Holland attributes an unsigned red figured kylix in the Fogg Museum to some pupil of the famous Douris (*HSCP* 52, 41 ff.). Among black figured vases in the Museo Poldi-Pezzoli, G. M. A. Richter adds a kyathos to the list of Psiax' works (*AJA* 45, 587 ff.). Pindar's knowl-

edge of the art of vases is confirmed in the opinion of D. M. Robinson, in "New Greek Bronze Vases: A Commentary on Pindar" (*AJA* 46, 172 ff.). "A Tragic Chorus on a Vase of 475 B.C.," by M. Bieber (*AJA* 45, 529 ff.), portrays views of the rehearsal of a tragic chorus in the Stoa Basileios.

#### PHILOSOPHY AND RELIGION

"Comment and Conjecture on Plato" (*CW* 35, 219 ff.) contains short notes by nine scholars on different aspects of Platonian studies. Two competent contributions by R. Robinson, *Plato's Earlier Dialectic* (Cornell Univ. Press, 1941) and "Plato's Parmenides" (*CP* 37, 51 ff., 159 ff.), discuss, respectively, what Plato has to say about method in his earlier period, and what Plato intended in the Parmenides. F. Solmsen in *Plato's Theology* (*Cornell Studies in Classical Philology*, XXVII, 1942), expresses the opinion that the interplay of politics and theological material is due to the fact "that Plato believes the state to be utterly dependent upon God (or the gods), as the Athenians of the early fifth century believed." Plato continues to be made accessible by American publishers in inexpensive format: Blue Ribbon Books, Garden City, N. Y., issues *The Best Known Works of Plato* in the familiar (though not always accurate) Jowett version; Black, N. Y., offers the *Apology, Crito, Phaedo, Symposium, and Republic*, edited by L. R. Loomis; and appearing in a basic English version is *The Republic of Plato*, by I. A. Richards (Norton, N. Y.). H. Kuhn, in "The True Tragedy: On the Relationship between Greek Tragedy and Plato, I" attempts to trace a line of development of ideas leading through tragedy to Plato and contends that Plato felt himself competitor and successor to the former, hence the hostility (*HSCP* 52, 1 ff.).

A well-proportioned picture of Aristotle's psychology drawn from all sources in his works, an interpretation in terms of modern biological psychology, is found in C. Shute, *The*



*Psychology of Aristotle* (Columbia Univ. Press, 1941). H. Fränkel in "Zeno of Elea's Attack on Plurality" (*AJP* 63, 1 ff., 193 ff.), presents an illuminating exposition of the method and meaning of Zeno's polemic to show the absurdity of the popular Many. Why Epicureans and Christians were associated in popular disfavor is discussed in A. D. Simpson, "Epicureans, Christians, Atheists in the Second Century" (*TAPA* 72, 372 ff.). R. A. Pack, in "Artemidorus and the Physiognomists," interprets Artemidorus' attitude toward the Physiognomists as owing to personal dislike toward Polemon of Laodicea (*TAPA* 72, 321 ff.).

*Philodemus: On Methods of Inference: A Study in Ancient Empiricism*, edited by P. H. and E. A. DeLacy with Translation and Commentary, is the tenth in the series of *Philological Monographs* published by the Amer. Phil. Assn. (Philadelphia, 1941). F. Steckerl treats of the relationship between artefacts and ideas in Plato and others (*CP* 37, 288 ff.). E. G. Suhr's *Two Currents in the Thought Stream of Europe* (Johns Hopkins Press, 1942) devotes the earlier part to how the Greek effected a compromise between himself and the world in which he lived and the differentiation between the points of view of the absolutist and the broad intellectual through the ages. A curious item is A. Efron, *The Sacred Tree Script: The Esoteric Foundation of Plato's Wisdom* (Tuttle, New Haven, 1941).

A. W. Persson in the current number of the *Sather Classical Lectures* (XVII, Univ. of California Press, 1942): *The Religion of Greece in Prehistoric Times*, uses the cycle of vegetation rites throughout the year, well known as the source of prehistoric religion in the Near East, to suggest sources for the religion of Greece. The classical Apollo drew his attributes from many sources and to the Anatolian sun god and the "Mouse Apollo" must be added the "Swan Apollo" introduced from the amber coast of northwestern Europe in A. H. Krappe, "Apollon Kyknos"

(*CP* 37, 353 ff.). In "Hero Cults in the Corinthian Agora" (*Hes.* xi, 128 ff.), O. Broneer considers hero cults and their relation to the major gods at Corinth, Poseidon, and Athena. H. Goodman finds the origin of the Greek herm, phallus and all, in a primitive wooden type of the Dionysos of mystic marriage (*AJA* 46, 58 ff.).

#### MISCELLANEOUS

"Brief Studies in Ancient Warfare" (*CW* 36, 63 ff.) by Bellinger, Pease, Poteat, McCartney, Horn, and C. J. Armstrong are tied to the times and point out close parallels in ancient and modern warfare: militia, war correspondents, morale, provisioning the Greeks at Troy, the Blitzkrieg, etc. A. D. Fraser, in "The Myth of the Phalanx-Scrimmage" (*CW* 36, 15 ff.), gives a commonsense interpretation of the function of the rear ranks, to wit, to provide reserves and to prevent a break through. In an interesting summary of maritime conveying in the Greek and Roman world numerous modern parallels are noted by J. C. Plumpe in "Ancient Convoying" (*CW* 36, 39 ff.). J. A. Saacke considers the ancient Greeks second to none in the art of horsemanship from the dawn of recorded history to the present day (*CJ* 37, 323 ff.).

A. Segrè, "The Ptolemaic Copper Inflation" (*AJP* 63, 174 ff.), connects the rates of exchange between silver and copper drachmae with the political events of the third century and the efforts of the first Ptolemies to keep Egypt a great world power. S. M. Mosser, in *The Endicott Gift of Greek and Roman Coins* (Amer. Numis. Soc., N. Y., 1941), contributes a serviceable publication of a minor collection, wherein all the Greek coins, except well known types, are abundantly illustrated. M. Thompson suggests a criterion for dating the "Coins for the Eleusinia" (*Hes.* 11, 213 ff.). J. G. Milne has published a study of *Kolophon and its Coinage* (Amer. Numis. Soc., N. Y., 1941).

A useful guide for those who have access to the Metropolitan Museum

## SEMITIC LANGUAGES AND LITERATURES

and a useful substitute for those who have not is H. McClees, *The Daily Life of the Greeks and Romans*, with 192 illustrations (Metr. Mus. Art, 1941, 6th ed.). W. A. Heidel gives an idealized picture of the skill and the character of the 'Hippocratic physician in *Hippocratic Medicine: Its Spirit and Method* (Columbia Univ. Press, 1941). A careful, rather comprehensive study of *Teachers' Pay in Ancient Greece* by C. A. Forbes forms *Studies in the Humanities* No. 2 (Univ. of Nebraska Press, 1942). A. P. Tallmadge, in "Greek Drama on College Campuses" (*CW* 35, 171 ff.), has summarized the 350 revivals since the Oedipus Tyrannus was presented at Sanders Theater in 1881. A list of

121 doctoral dissertations was published in 1941-42 (*CW* 35, 189 ff.). T. Whittemore writes on the progress of the "Unveiling of the Mosaics in Hagia Sophia" (*AJA* 46, 169 ff.), which is giving these rare glories back to the world. A token fulfilment of the need for small books to illustrate the history and influence of single important works of art is given by M. Bieber, *Laocoon: The Influence of the Group since its Rediscovery* (Columbia Univ. Press, 1942). S. H. Weber has published in *Schliemann's First Visit to America* (Gennadeion Monographs, No. 2) Schliemann's diary of 1850-51, a document which throws fresh light on an interesting character.

## SEMITIC LANGUAGES AND LITERATURES

BY ARTHUR JEFFERY

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Wartime restrictions and demands affected the amount of production in this field during the year, though the vicissitudes of war have greatly strengthened the body of Semitic scholars in this country by bringing many refugee scholars from abroad.

### GENERAL SEMITICS

A. Goetze in *JAOS* (*Journal of the American Oriental Society*) LXII, 1-8 addressed himself to the problem of "The so-called Intensive of the Semitic Languages," and by an examination of the Akkadian material suggested that the usual assumptions regarding the scheme of the Semitic verb must be given up. In the same number of that journal, pp. 109-118, Frank R. Blake published Part II of his "Studies in Semitic Grammar" (Part I was published in 1917), in which he discusses a number of unrelated points ranging from general Semitic verb-stems to uses of particles in the N. Arabian inscriptions. A. L. Oppenheim discussed "The Neo-Babylonian Preposition *la*" in *JNES* (*Journal of Near Eastern Studies*) I, 369-372, controverting the

opinion advanced by L. Hartmann in *Orientalia* VII that no such preposition existed. A new approach to the old problem of "Shibboleth" is suggested by E. A. Speiser in *BASOR* (*Bulletin of the American Schools of Oriental Research*) No. 85. Of quite unusual interest was M. Stekelis' report on soundings in pre-historic caves in Palestine, printed in *BASOR* (No. 86), with observations of W. F. Albright on some of the pottery from these soundings.

### AKKADIAN

O. Neugebauer, in support of his general theory that Babylonian methods of calculation as followed by the Greeks went, along with Greek astronomy, to India in the first centuries of our era, and there developed into the system of notation which was brought back West again by the Arabs, and is known to us as the Arab numeral system, discusses in *JAOS* LXI, 213 ff. the question of a special sign for zero in the cuneiform astronomical texts. In the same journal pp. 251-271, A. Leo Oppenheim, in an article "Idiomatic Akkadian," dis-

cusses the idiomatic use of words for parts of the body in the Akkadian texts. A tablet from Tell Asmar, discussed by I. J. Gelb in *JNES* I 219-226, though it is of the Isin-Larsa period, is not in Babylonian, but in Old Assyrian, with certain curious features resembling Cappadocian, which suggest that it perhaps represents another local variety of Assyrian. In the *Studies in the History of Culture* presented to W. G. Leland, a paper by E. A. Speiser on "Some Sources of Intellectual and Social Progress in the Ancient Near East," discusses the significance of the recent discoveries in Mesopotamia of material illustrating the activity of Mesopotamian peoples in the fields of linguistics, education, jurisprudence, and the natural sciences. The new Assyrian King-list, discovered by the Oriental Institute of Chicago during excavations at Khorsabad in 1932-33, the publication of which has been awaited with much interest, is now becoming accessible. The first part of an extended study of the list by A. Poebel, is given in *JNES* I 247-306. H. A. Rigg, Jr. in *JAOS* LXII, 130-138 re-examines the Louvre Tablet recording Sargon's so-called Eighth campaign, in order to reject certain accepted notions concerning this letter, and to offer a number of geographical suggestions which will lead to a better understanding of the tablet.

#### UGARITIC

J. A. Montgomery in an article "The Ugaritic Fantasia of the Gracious and Beautiful Gods" in *JAOS* LXII 49-51, discusses some difficult lines in one of the Ugaritic Liturgies, treating the piece as possibly being meant for dramatic representation. Notes on the Ugaritic texts concerning Anath and the Dragon are offered by H. L. Ginsberg and W. F. Albright in *BASOR* No. 84. In a paper published in *JBL* (*Journal of Biblical Literature*) LX, 353-374, on "The Nikkal Poem from Ras Shamra," A. Goetze gives a full discussion, followed by a new translation, of the text concerning the marriage of the

"great lady" Nikkal to the Moon-god Yarah.

#### CANAANITE

T. H. Gaster in a paper "A Canaanite Magical Text" in *Orientalia* XI, 41-79, discusses in detail, primarily from the point of view of the folklorist, a tablet of the VIIth century B.C. found at Arslan Tash in 1933, and which bears on it three magical figures and an incantation against child-slaying demons. W. F. Albright's Ayer Lectures at Colgate-Rochester Divinity School have been published under the title *Archaeology and the Religion of Israel*, and in them will be found a synthesis of all recent archaeological evidence for the religion and institutions of the Canaanites, with an assessment of their influence on the religion and institutions of Israel. Albright also contributed an important study on "The Role of the Canaanites in the History of Civilization" to the *Studies in the History of Culture* presented to W. G. Leland. He had also an article on "The Egypto-Canaanite deity Hauron" in *BASOR* No. 84, and he and Mendenhall discuss in *JNES* I 227-232 "The Creation of the Composite Bow in Canaanite Mythology," offering a new interpretation of a passage in the Dan'el Epic from Ras Shamra.

#### HEBREW

Harry M. Orlinsky continued his studies in Hebrew Grammar in the *Jewish Quarterly Review* XXXII 273-277, with a paper on the "Cohortative and Jussive after an Imperative or Interjection in Biblical Hebrew." In an article on "Hebrew Phonology" in the *Hebrew Union College Annual* XVI, 415-482, A. Sperber examines the inadequacy of the Tiberian system of vocalization and the possibilities of arriving at an earlier system of phonology for the language. Ibn Tibbon's version of Bachya ibn Paquda's *Duties of the Heart*, has been translated into English by M. Hyamson and issued by the Bloch Publishing Company. To the *Bulletin* of the New York Public

Library for June 1942, Dr. Bloch contributes an informative paper on "Hebrew Printing in Naples." To Naples, Jews from Aragon, Catalonia, and Valencia went when their position in Spain began to get impossible, and set up there presses which in the XVth century did no inconsiderable printing of Hebrew texts.

#### ARAMAIC

The old question of the Aramaic underlying the Greek Gospels has been the subject of renewed discussion. A. T. Olmstead in the first volume of *JNES* 41-75, raised the question in a provocative paper on "Could an Aramaic Gospel be Written?" to which C. C. Torrey added suggestive material in an article "The Aramaic of the Gospels" in *JBL* LXI, 71-85. E. Goodspeed replies from the point of view of the Hellenists in an article "The Possible Aramaic Gospel" in *JNES* I 315-340. The problem of Nabataean Syria is opened up by Nelson Glueck in *BASOR* No. 85, where on the basis of pottery finds, he is inclined to decide that the Nabataean area of Syria was rather in the nature of colonies controlled by the Nabataeans than part of the settled Nabataean state.

#### ARABIC

A fresh contribution to the literature of romantic love is provided by A. R. Nykl in a small work published in *Hispanic Notes and Monographs*, entitled "Historia de los Amores de Bayad y Riyad. Una chantefable oriental en estilo persa," in which he gives the unfortunately imperfect text from the Vatican MS. Ar. 368, with a translation, and an introduction which seeks to link this tale to the now well-known theory of Arabic influence on Romance literature of this kind. In the *Moslem World* XXXII, 60-68, E. E. Calverley has a brief "Bibliography of Arabic Philosophy" to guide students interested in taking up the study of the so-called Arabian Philosophers. In this field also is the first part of an essay by H. A. Wolfson in *JQR* XXXII, 345-370, on "Hallevi's and Maimon-

ides Approach to the Philosophic conception of Prophecy," and the first part of a paper in the *HUCA* XVI, 251-319, by Eric Werner and Isaiah Sonne on "The Philosophy and Theory of Music in Judaeo-Arabic Literature." Perhaps the most famous of these Arabian Philosophers was Avicenna, and in *MW* XXXII, 298-323, D.B.M. Emrich has begun a collection of passages illustrating the curious legend woven about the figure of this famous physician and philosopher, whereby he becomes a prodigy worker and prince of necromancers. Levi della Vida in *JAOS* LXII 156-171 edits with notes the Arabic text of "Muhammad ibn Habib's Matronymies of Poets," from a Cairo MS giving a list of Arab poets named after their mothers, compiled by the philologist Ibn Habib of the 3rd century, A.H. Of some interest also is the same scholar's account in *MW* (XXXII, 283-297), of material drawn from the fly-leaves of a MS of a portion of the Qur'an in the Vatican Library, which proved to be a cipher made by a Portuguese of the XVIth century, giving the itinerary of a journey to Mecca on the Muslin pilgrimage. In *JAOS*, LXII, 175-195, Jeffery and Mendelsohn have studied the problem of the "Orthography of the Samarqand Codex" of the Qur'an, which popular tradition held to be that of 'Uthman himself, but which appears to be much later and of no very great value for textual studies. To *AJSL* LVIII, 259-284, Miss Nabia Abbott contributed a study of "Woman and the State on the Eve of Islam," and in the first part of the new *JNES* 106-126, she continues with "Women and the State in Early Islam," assembling the available references from the Tradition as to the part played by women in Islam's beginnings, and then on pp. 341-368 assembling similar material for the status of women in the Umayyad period. In *JAOS* LXII, 68-72, Harold W. Glidden has assembled a number of nautical terms in use among the fisher-folk at al-'Aqabah on the Red Sea—"A Comparative Study of the Arabic Nautical Vo-



cabulary from al-'Aqabah, Transjordan."

### EGYPTIAN

G. Steindorff and Keith Seelye have published with the Chicago University Press an important book, *When Egypt ruled the East*, giving an illustrated history of Egyptian culture during the period of imperial expansion under the XVIIIth Dynasty, but setting the stage by introductory chapters on the earlier history of Egypt, and in two final chapters treating of the succeeding Ramessid period and the final decline of Egyptian civilization. The *Bulletin* of the New York Public Library is continuing in vol. XLVI to print the extremely useful "List of References" to material on Ancient Egypt contained in the Library, as compiled by Ida A. Pratt. In *JNES* I, 127-155, Harold H. Nelson in an article "The Identity of Amon-Re of United-with-Eternity," assembled a deal of unpublished material gathered by himself during his years in charge of the work of the University of Chicago at Luxor to illustrate the worship of that Amon

who was the deity of Ramses III's temple at Madinat Habu. The perennial question of Egypt's relations with an influence on the other lands and peoples of the Near East was the subject of a paper by Helene J. Kantor "The Early Relations of Egypt with Asia" in *JNES* I, 174-213, in which she deals with (1) Egypt and Palestine in the pre-Gerzean period; (2) later pre-Dynastic relationships with Mesopotamia; (3) Egypt and Palestine under the First Dynasty; (4) Egypt and Syria. Her conclusions are that, while in the case of the cultures anterior to the Gerzean there is no satisfactory evidence of contact, yet there are definite contacts between Gerzean material and Palestinian chalcolithic, the influences going in both directions. The same reciprocal influence is more pronounced in the First Dynasty, when Egyptian influence reached as far as Byblos. Influences from Syria and Mesopotamia can be traced in Egypt even in the pre-Dynastic period, but no traces of Egyptian influence have been found in those areas aside from that at Byblos.

## INDO-EUROPEAN LINGUISTICS

BY GEORGE S. LANE

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### THE LINGUISTIC SOCIETY OF AMERICA

The Eighteenth Annual Meeting of the Linguistic Society of America was held at Indianapolis, Ind. on Jan. 1-2, 1942. Some 75 to 80 persons attended the sessions. The proceedings of the meeting were published in *Bulletin 15, Supplement to Language* XVIII, no. 1. It was decided to hold the Nineteenth Annual Meeting on Dec. 28-29, 1942, in an Eastern and a Western Section, at New York and at Cincinnati. This was in accord with the desire of the Office of Defense Transportation to curtail civilian travel. It was planned to devote considerable time to the discus-

sion of the position of Linguistics in a global war.

### THE LINGUISTIC INSTITUTE

The Linguistic Institute was held again this year in Chapel Hill, under the joint auspices of the Linguistic Society and the University of North Carolina, from June 11 to July 22. The American Council of Learned Societies generously helped finance the Institute directly and by awarding scholarships to a number of students. A report of the Institute by its director, Prof. U. T. Holmes, Jr., will be found in *Bulletin 16, Supplement to Language* XIX, no. 1 (to be published Jan.-March 1943). The

visiting instructors included Myles Dillon (Wisconsin; Celtic), F. Edgerton (Yale; Sanskrit), A. Goetze (Yale; Summerian and Hittite), H. Hoiyer (California; American Indian and Phonetics), G. A. Kennedy (Yale; Chinese), R. G. Kent (Pennsylvania; Classics and Iranian), H. Kurath (Brown; General Linguistics and Dialect Geography), A. Senn (Pennsylvania; Slavic). Due to the present critical situation with regard to all colleges and especially graduate schools, plans for the Institute for the summer of 1943 are yet in abeyance.

### THE INTENSIVE LANGUAGE PROGRAM

Immediately after the events of Dec. 7, 1941, the importance of competent training in the less usual languages became acutely obvious. In order to meet the need as quickly as possible, the American Council of Learned Societies embarked in the spring of 1942 upon an ambitious program of language instruction and of preparation of materials for the learning of languages for which there exists at present no adequate implementation. The funds for the program were furnished by the Rockefeller Foundation on a two-year grant ending in June 1943. By the fall of 1942 the program of instruction included such little taught languages as Amharic, Hausa, Hindustani, Kurdish, Malay, Mongolian, Panjabi, Swahili, Thai, etc. In the magazine *Asia*, June 1942 (pp. 375-378) in an article entitled "Oriental Languages and the War Effort," Mortimer Graves, Administrative Secretary of the American Council of Learned Societies, outlined briefly the relationship between language study and totalitarian war. Full information on the program at present and the bulletins on the opportunities for intensive study of unusual languages, published at intervals, can be procured from J. M. Cowan, American Council of Learned Societies, 1219 Sixteenth Street, N. W., Washington, D. C.

### GENERAL CONTRIBUTIONS

The various problems concerned with the phoneme continue to occupy the phonologist. The article "The Syllabic Phonemes of English" by Traeger and Bloch (*Lang.* 17. 223-46)<sup>1</sup> has called for two protests against the simplicity of patterning in which the system there outlined results, the first by N. E. Eliason, "On Syllabic Division in Phonemics" (*Lang.* 18. 144-47), the other by E. Haugen and W. F. Twaddell, "Facts and Phonemics" (*ibid.* 228-37). The article by C. F. Hockett, "A system of Descriptive Phonology" (*ibid.* 3-21) attempts to delimit the field of descriptive phonology and formulate a system thereof. Welcome is the exposé by W. F. Twaddell, "Phonemics" (*Monatshefte für deutschen Unterricht* 34. 262-8), intended as it is "more for those who have barely heard of phonemics than for the phonemic expert." Aside from these discussions the descriptive linguist will also be interested in the paper by Z. S. Harris, "Morpheme Alternants in Linguistic Analysis" (*Lang.* 18. 169-80), which tries to "suggest a technique for determining the morphemes of a language, as rigorous as the method used now in finding its phonemes."

Of more direct concern to the Indo-Europeanist is Miss E. A. Hahn's study, "The Indefinite-Relative-Interrogative Stem *sem-*, *sm-*, *smo-*" (*Lang.* 18. 83-116), an exhaustive treatment of the ramifications of that pronominal root in Hittite in particular and in Indo-European in general, with an attempt to show that the stem is in reality a complex of the Indo-European demonstrative *se-*, *so-* plus another pronominal form *mo-*.

Professor Gray's book *Foundations of Language* (cf. THE AMERICAN YEAR BOOK 1940 p. 939, 1941, p. 908) continues to be the subject of reviews from various angles, e.g. Blake in *AJPh.* 63. 337-42, Lane in *JEGPh.* 41.

<sup>1</sup> Abbreviations: *Lang.* = *Language, Journal of the Linguistic Society of America*; *AJPh.* = *American Journal of Philology*; *MLN* = *Modern Language Notes*; *JAOS* = *Journal of the American Oriental Society*; *JEGPh.* = *Journal of English and Germanic Philology*.

89-94, and K. Malone in "Some Linguistic Studies of 1939 and 1940," *MLN* 57. 123-148.

### GREEK, LATIN, CELTIC

In Greek, the Duke University dissertation of J. L. Rose, *The Durative and Aoristic Tenses in Thucydidēs* (*Language Diss.* no. 35, Baltimore), is a detailed study of the difference in aspect between imperfects and aorists in that author. Further, Miss A. E. Kober, in "The Gender of Nouns Ending in -inthos" (*AJPh.* 63. 320-7), corrects the general impression that the suffix is predominantly feminine. In "The Etymology and Meaning of γλώσσοπρος and σόμαπρος" (*ibid.* 87-90), W. H. Willis holds that the second member was *deyós* "bright, clear" (hence "loud"), not from a dissimilated form of *áλγος* "pain," as is usually assumed. R. T. Kahane, in "Some Sandhi Phenomena in Modern Greek" (*MLN* 57. 39-45), discusses some causes for changes of initials of Italian loanwords in Modern Greek.

Also in Latin another *Language Dissertation* (no. 36) has appeared: A. G. Vaughan, *Latin Adjectives with Partitive Meaning* (Baltimore; University of Pennsylvania Dissertation), the first exhaustive study of the construction *summus mons, media nocte*, etc. In another of her studies concerning the Italic and Celtic dependent-passive "The Middle Verb *vi-dēri*" (*Lang.* 18. 26-32), Miss E. F. Claffin argues that the sense is really middle, not passive. P. Treves, in "The Meaning of *Consenesco* and King Arybbas of Epirus" (*AJPh.* 63. 129-53), contends that the verb in question meant "grow old and die in exile" as well as the simple "grow old, grow weak" (as the *Thesaurus*). V. Hull, in "The Future First Singular of Old Irish *do-diat*" (*Lang.* 18. 140-1) shows that the prototonic first singular form *tuidius* belongs to *do-diat* (\*to-dī-fed-) not *do-feid* (\*to-fed-).

### HITTITE, INDO-IRANIAN, ARMENIAN

Prof. E. H. Sturtevant, in "Did Hittite have Phonemes *e* and *o*?"

(*Lang.* 18. 181-92), concludes negatively, namely, that by 1400 B.C. Hittite had only vowels *i*, *a*, and *u*, with earlier *e* merged with *i*, and that even the earlier language did not distinguish between *u* and *o*. In connection with Hittite special mention should be made of the course given by Professor Goetze at the Linguistic Institute (cf. above). The class had a regular attendance of eight students, a remarkable number for so specialized a course.

In Old Persian, Prof. R. G. Kent, the American dean in the field, attempts to disprove Bartholomae's formula that IE *r* became *u* before *n* in the article "Vocalic *r* before *n* in Old Persian" (*Lang.* 18. 79-82). E. B. Davis, in "Sanskrit Vowels" (*JAOS* 62. 118-30), investigates Sanskrit vowel changes from various points of view and concludes that the development of IE *e* and *o* to *a*, and of *ē* and *ō* to *ā* was due chiefly to the tone accent present in the language.

The renewed interest in the "Anatolian" languages is evidenced by W. M. Austin in "Is Armenian an Anatolian Language?" (*Lang.* 18. 22-5), with a brief criticism of Kerns and Schwartz (*ibid.* 226-8) in which Austin groups Armenian with Hittite, Luwian, and Lycian on basis of retention of third laryngeal (cf. *THE AMERICAN YEAR BOOK* 1941, p. 908), lack of inherited long vowels, of distinction between palatal and velar, and absence of feminine gender. Further, G. Bonfante identifies Armenian *etu* "I gave," *eti* "I put" with the Slavic forms as original *s*-aorists in his discussion of "The Armenian Aorist" (*JAOS* 62. 102-5).

### GERMANIC

Four studies of a general nature have appeared. One is the interesting article by W. P. Lehman, "The Indo-European *dh*-determinative in Germanic" (*Lang.* 18. 125-32), where the author concludes that the formation gave a "past passive modification of meaning" to nouns formed from transitive roots, but in the case of intransitive roots the modification

## PERIODICAL PUBLICATIONS

seems to be one "caused by previous action." A second is by C. D. Chretien, "Indo-European Final -s in Germanic" (*Univ. of Calif. Publications in Modern Philology* 25, 1. 1-10). The other two are by F. Metzger: "The Verbal Type *faran* in Germanic" (*Lang.* 18. 223-5) where an attempt is made to show that verbs of the sixth class strong which belong to roots of the *e/o* series are from disyllabic bases; and "The Formation of OHG *diorna*, OS *thiorna*, Goth. *widuwairna*, and OE *nīwierne* (*MLN* 57. 432-33).

For Old High German, R. M. S.

Heffner has published two investigations both under the title "Zum Weissenburger Katechismus" (*JEGPh.* 40. 545-54 and 41. 194-200). The former studies the vocabulary of *Wk* with a view to establishing its connection with Isidor and its place of origin (Murbach), the latter considers the phonology with similar purpose. For Old English we have the syntactic study by H. Meroney, "OE *ðær* 'if'" (*JEGPh.* 41. 201-9), and finally a study of the phonological structure of Gothic by M. Joos, "Statistical Patterns in Gothic Phonology" (*Lang.* 18. 33-38).

## PERIODICAL PUBLICATIONS

*American Historical Review*  
60 Fifth Ave., New York City.  
*American Journal of Philology*  
Johns Hopkins Press, Baltimore, Md.  
*American Journal of Semitic Languages and Literatures*  
5750 Ellis Ave., Chicago.  
*American Spectator*  
683 Broadway, New York City.  
*American Speech*  
Columbia University Press, New York City.  
*Atlantic Monthly*  
8 Arlington Street, Boston.  
*Celtic Digest*  
Columbia University, New York City.  
*Classical Journal*  
Ann Arbor, Mich.  
*Classical Philology*  
5750 Ellis Ave., Chicago.  
*Classical Weekly*  
4200 Fifth Ave., Pittsburgh, Pa.  
*Commonweal (The)*  
386 Fourth Ave., New York City.  
*Editor and Publisher*  
1475 Broadway, New York City.  
*Germanic Review*  
Columbia University Press, New York City.  
*Harper's Magazine*  
49 East 33d Street, New York City.  
*Hispanic Review*  
University of Pennsylvania Press, Philadelphia.

*Journal of American History*  
175 Fifth Ave., New York City.  
*Journal of English and Germanic Philology*  
University of Illinois, Urbana, Ill.  
*Journal of Modern History*  
5750 Ellis Ave., Chicago.  
*Lance*  
2512 East 5th Street, Dayton, O.  
*Language*  
University of Pennsylvania, Philadelphia.  
*Library Journal*  
62 West 45th Street, New York City.  
*Library Quarterly*  
5750 Ellis Ave., Chicago.  
*Literary America*  
175 Fifth Ave., New York City.  
*Literary World*  
12 Mount Morris Park W., New York City.  
*Magazine*  
512 California Bank Building, Beverly Hills, Calif.  
*Modern Philology*  
5750 Ellis Ave., Chicago.  
*New England Quarterly*  
200 Stevens Hall, Orono, Maine.  
*North American Review*  
123 William Street, New York City.  
*Philological Quarterly*  
University of Iowa, Iowa City, Ia.  
*Poetry*  
232 East Erie Street, Chicago.



## XXV. LITERATURE AND LANGUAGE

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|---|--|
| <i>Poetry Digest</i><br>220 West 42nd Street, New York City.        | <i>Saturday Review of Literature</i><br>25 W. 45th St., New York City.                   |
| <i>Poetry Review</i><br>570 Lexington Ave., New York City.          | <i>Scribners-Commentator</i><br>654 Madison Ave., New York City.                         |
| <i>Poet's Magazine</i><br>101 West 44th Street, New York City.      | <i>Studies in Philology</i><br>University of North Carolina Press,<br>Chapel Hill, N. C. |
| <i>Romantic Review</i><br>Columbia University Press, New York City. | <i>Words</i><br>808 South Vermont Ave., Los Angeles, Calif.                              |
|   | <i>Yale Literary Magazine</i><br>Yale Station, New Haven, Conn.                          |

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### GENERAL

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|---|---|
| AMERICAN ACADEMY OF ARTS AND LETTERS, 633 W. 155th St., New York City.                      | BOOK PUBLISHERS BUREAU, 347 Fifth Ave., New York City.                      |
| AMERICAN ACADEMY OF ARTS AND SCIENCES, 28 Newbury St., Boston, Mass.                        | FOREIGN PUBLICITY SERVICE, 77 Bowery, New York City.                        |
| AMERICAN BOOKSELLERS ASSN., 35 E. 20th St., New York City.                                  | NATIONAL EDITORIAL ASSN., 188 W. Randolph St., Chicago, Ill.                |
| AMERICAN COUNCIL OF LEARNED SOCIETIES, 907 Fifteenth St., N.W., Washington, D. C.           | NATIONAL INSTITUTE OF ARTS AND LETTERS, 633 W. 155th St., New York City.    |
| AMERICAN LIBRARY ASSN., 520 N. Michigan Ave., Chicago, Ill.                                 | NATIONAL PUBLISHERS' ASSN., 232 Madison Ave., New York City.                |
| AMERICAN NEWSPAPER GUILD, 14 Pearl St., New York City.                                      | NEWSPAPER ADVERTISING EXECUTIVES ASSN., 1708 Mariner Tower, Milwaukee, Wis. |
| AMERICAN NEWSPAPER PUBLISHERS' ASSN., 370 Lexington Ave., New York City.                    | UNITED PRESS ASSN., 220 E. 42nd St., New York City.                         |
| AMERICAN PHILOSOPHICAL ASSN., Wesleyan University, Middletown, Conn.                        | U. S. PUBLISHERS ASSN., INC., 386 Fourth Ave., New York City.               |
| AMERICAN PHILOSOPHICAL SOCIETY, 104 S. Fifth St., Philadelphia, Pa.                         |   |
| AMERICAN SOCIETY OF COMPOSERS, AUTHORS AND PUBLISHERS, 30 Rockefeller Plaza, New York City. | <b>AMERICAN LITERATURE</b>  |
| AMERICAN SOCIETY OF NEWSPAPER EDITORS, Times-Union Bldg., Rochester, N. Y.                  | AMERICAN DIALECT SOCIETY, Bascom Hall, Madison, Wis.                        |
| ASSOCIATED PRESS, THE, 50 Rockefeller Plaza, New York City.                                 | AUTHORS GUILD, 6 E. 39th St., New York City.                                |
| ASSOCIATION OF NATIONAL ADVERTISERS, 330 W. 42nd St., New York City.                        | AUTHORS LEAGUE OF AMERICA, INC., 6 E. 39th St., New York City.              |
| BIBLIOGRAPHICAL SOCIETY OF AMERICA, 47 E. 60th St., New York City.                          | CATHOLIC WRITERS GUILD OF AMERICA, 128 W. 71st St., New York City.          |
|   | NATIONAL ASSN. FOR AMERICAN SPEECH, 174 W. 76th St., New York City.         |
|   | SIMPLIFIED SPELLING BOARD, Lake Placid Club, Essex County, N. Y.            |
|   | WALT WHITMAN SOCIETY OF AMERICA, 377 Anchor Ave., Oceanside, L. I., N. Y.   |

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### LANGUAGE AND LITERATURE

AMERICAN CLASSICAL LEAGUE, New  
York University, Washington Sq.,  
New York City.

AMERICAN ORIENTAL SOCIETY, 329  
Sterling Memorial Library, New  
Haven, Conn.

AMERICAN PHILOLOGICAL ASSN.,  
Swarthmore College, Swarthmore,  
Pa.

DANTE ALIGHIERI SOCIETY OF NEW  
YORK, 626 Fifth Ave., New York  
City.

DICKENS AMERICAN FELLOWSHIP, 280  
Madison Ave., New York City.

MODERN LANGUAGE ASSN. OF AMERICA,  
51 West 4th St., New York City.

## DIVISION XXVI

### THE ARTS

#### PAINTING

By FLORENCE S. BERRYMAN  
THE AMERICAN FEDERATION OF ARTS

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##### GENERAL

Painting, as other phases of American life and culture, manifested during 1942 the effects of war. A review of the year properly begins with Dec. 7, 1941. Government patronage of American art became definitely connected with the war effort, either as a pictorial record of the preparations for conflict or as propaganda. Many American painters joined the armed forces, continuing their creative expression as a recreation or as a contribution to war activity and morale. Art galleries, museums, and other exhibiting centers augmented their programs when possible, adding shows relating to the war, and works by soldier-artists. Many large and important cultural exhibitions carried admission fees, the proceeds being devoted to various benefit and relief funds. Art museums in New York City, Washington, and other cities, likely to undergo token bombing raids, built strongholds for the protection of masterpieces. The outstanding event without war connection, was the formal presentation of the Widener Collection to the National Gallery of Art. Of wide interest also was the announcement on Jan. 18, 1943 of the consolidation of the Whitney Museum of American Art with the Metropolitan Museum of Art. A new wing to house the Whitney Museum collection will be built at the Metropolitan after the war.

##### GOVERNMENT AND WAR ART

The Office of Emergency Management held one week after Pearl Harbor a competition open to all artists, conducted by the Section of Fine Arts, P.B.A., F.W.A. Subjects were unrestricted defense and war activities. Nearly 1,200 artists submitted more than 2,500 works from which the O.E.M. purchased 109. In February, this work was exhibited at the National Gallery of Art in Washington, as the first showing on a national tour. Also in December 1941, the O.E.M. appointed eight qualified artists to make a pictorial record, with permission of the Army and Navy, of war work in the restricted classification. An exhibition of this work began a country-wide tour at the National Gallery in March.

The Section of Fine Arts conducted for the American Red Cross a national open competition early in the year for pictures interpreting Red Cross activities. More than 1,200 artists submitted over 2,000 works. The Red Cross purchased 71 and exhibited them at the National Gallery in May as the beginning of a circuit.

Posters, which are generally paintings in two or more colors for reproduction, were produced in large numbers by the O.E.M., War Production Board, Civilian Defense and other agencies. The Army and Navy and Treasury Department were responsible for some of their own posters. Also, the many artists em-

## PAINTING

ployed by the Works Projects Administration through its State units were turning out hundreds of thousands of many purpose posters weekly. The dissolution of WPA, ordered in December 1942, will presumably end these war services projects in the 40 states in which they were operating. In August, the art division of the O.E.M. which distributed the larger part of U. S. Government posters, was incorporated in the Office of War Information.

### NAVY DEPARTMENT'S ART PROJECT

The Navy Department initiated a limited art project to provide a graphic record of the war to supplement photographs with paintings, drawings, and prints. Griffith Bailey Coale, mural painter, was the first artist commissioned. Four young painters—Mitchell Jamieson, Dwight Shepler, William F. Draper, and Albert K. Murray—were commissioned as officer-artists to be sent to sea for recording incidents in combat areas. Charles Bittinger and Everett Warner, painters, are engaged in research and design of camouflage for ships.

### ARTISTS IN THE ARMED FORCES

Young artists inducted into the services have been assigned frequently by their superior officers to projects such as painting murals in clubs and recreation halls, and have been given other opportunities to use their talents and skills.

A surprising number of young men in many camps continued to paint during their free hours, and vigorous groups were formed. The Army Illustrators of Fort Custer, Mich., the Art Workshop of Camp Crowder, Mo., and the Studio Workshop of Fort Bragg, N. C. Replacement Training Center, the last mentioned the creation of one young painter, Pvt. (now Corporal) Frank Duncan, are among the service men's art groups which have become nationally known.

Private organizations and institutions contributed to the future pictorial archives of this war by holding

exhibitions and competitions for artists in the services, with their military or naval experiences as themes. The outstanding instance was the competition held in the spring by *Life* for men of the armed forces (all branches). The sum of \$1,000 was offered in purchase awards for 11 paintings. More than 1,500 works were submitted from all parts of the United States and from Hawaii and Iceland. Pvt. Robert C. Burns of Fort Belvoir, Va. was awarded first prize for his oil painting "Troop Movements." More than 150 works were selected from these entries and composed an exhibition at the National Gallery of Art in July, subsequently taken over for a national circuit by The American Federation of Arts.

The Museum of Modern Art in New York held an outstanding exhibition for soldier-artists early in the year. Museums in many cities invited service artists to send works to exhibitions, and waived the usual admission fees (*e.g.* the Society of Independent Artists, New York) or have undertaken to mat and frame works at their own expense (Telfair Academy of Art, Savannah, Ga.) or otherwise made exhibition of their paintings easy for service men.

Civilians responded warmly to soldiers' appeals for materials, paints, canvas, etc. and loans of paintings to be exhibited at camps. An organization, Art in National Defense, was formed in California, for example, one of the chief services of which is to supply soldier-artists with compact, fully equipped painting kits for field packs.

### CIVILIAN ARTISTS' WAR CONTRIBUTIONS

Immediately after the outbreak of war, painters and other artists formed into groups to offer their services to the armed forces and the Government. The National Art Council for Defense and Artists' Societies for Defense, two large rival organizations in New York City representing 21 smaller groups, amalgamated the middle of January and became the



Artists' Council for Victory. Hobart Nichols, noted landscape painter and president of the National Academy of Design, became president of this new organization. The Sections of Fine Arts, F.W.A. and private organizations throughout the nation circulated exhibitions of paintings to Army camps, Naval bases, etc. Fifty artists on the WPA Southern California Art Project began in December 1941 to paint murals and easel paintings for the marine base, Naval training base, and torpedo base at San Diego, Fort MacArthur at San Diego, and the Long Beach airfield. Artists under commission from the Citizens' Committee for the Army and Navy painted 29 triptychs to be used by the armed forces in response to request. Militant and triumphant aspects of religion were the themes. Triptychs designed for ships were painted on steel.

#### WAR SAFETY MEASURES

The National Gallery of Art stored Raphael's "Alba Madonna" and other old-master paintings of outstanding rarity and value. The Corcoran Gallery of Art and other national capital institutions also removed their greatest treasures to vaults for protection against air raids. In New York, the Metropolitan Museum of Art, Brooklyn and Whitney Museums, and Museum of the City of New York, as well as the Bache and Frick Collections, also carried out plans to safeguard their treasures. Most of them secured havens outside of the city for irreplaceable objects. The Museum of Modern Art has two strongholds, one out of the city, another in its building.

The Riverside Museum, on the other hand, inaugurated a plan for larger museums, instead of storing their possessions, to send them for exhibition to less rich institutions in the interior, where bombing dangers are non-existent.

#### THE WIDENER COLLECTION AT THE NATIONAL GALLERY

The year's outstanding art event was Joseph E. Widener's formal offer

to the nation of the magnificent collection of more than 100 old-master paintings, of Renaissance and later sculpture, drawings by Rembrandt, Durer, and other European masters, tapestries, ceramics, Limoges enamels, Renaissance jewelry and furniture, assembled by the donor's father, the late Peter A. B. Widener and himself, and given in memory of the former. The collection has rarely been equalled in any period of collecting in Europe or America.

President Roosevelt revealed the offer in a request to Congress on Aug. 20 for an appropriation of approximately \$195,000 to pay the Pennsylvania state tax on the collection, which Peter A. B. Widener's will stipulated his estate should not pay, in the event of presentation of the collection to the nation, and for which the National Gallery had no funds. This sum was 5 per cent of the most recent appraised value of the collection. Enabling legislation was passed by Congress within a week. Announcement that the collection was destined for the National Gallery was made in October, 1940 (see *THE AMERICAN YEAR BOOK*), but until the formal offer in August, 1942 the collection's incorporation in the Gallery was indefinite.

The Widener Collection was opened to the public on Dec. 20. It included paintings, sculpture, and decorative arts of many kinds. The paintings and sculpture completely fill a number of rooms on the main floor.

An extensive series of rooms on the ground floor, not previously open to the public, was specially prepared for the decorative arts. Here are located such objects of art as the 12th century Chalice, once part of the Treasury of St. Denis (France's "Westminster Abbey") and is thought to have been presented to that monastery by the famous Abbot Suger; Limoges enamels, rock crystals, and Renaissance jewelry, including several pieces with settings attributed to Benvenuto Cellini. There are also outstanding examples of ceramics, comprising a famous collection of majolica ware from Italy and 169 im-

portant examples of Chinese porcelains. A group of celebrated tapestries includes one which belonged to Cardinal Mazarin. Finally, many pieces of furniture date from the 15th to 18th centuries.

The major importance of the Widener Collection is two-fold: first, it adds superb examples of paintings by masters of northern Europe, thus giving the Gallery's collection a better balance than it had before, with its predominantly Italian Renaissance character; in the second place, the quality of the Widener works is so high that they will inevitably enhance the Gallery's prestige.

The Widener Italian Renaissance paintings are works of exceptional interest and do not duplicate those of the Mellon and Kress gifts. Giovanni Bellini's two mythologies, "Feast of the Gods" and "Orpheus," are practically unique. So too is Andrea del Castagno's "Youthful David," painted on a parade shield, and Neroccio di Bartolommeo Landi's "Portrait Bust of a Lady." Raphael's "Small Cowper Madonna" adds a superb example of his youthful period. Three splendid Titians, the famous "Venus and Adonis" and a pair of portraits of the Spilimbergo sisters, strengthens the Gallery's representation of Venetian painting of the great period.

The Spanish School is augmented by two masterpieces by El Greco, "St. Martin and the Beggar" and "Virgin with Santa Inez and Santa Tecla," both from the Chapel of San José in Toledo, and Murillo's "Girl and Her Duenna."

Northern Schools of the 17th century are superbly represented. Fourteen paintings by Rembrandt include "The Mill," one of the greatest tonal landscapes in the history of art; portraits of a gentleman and lady from the Youssouff collection; a self-portrait, and three exceptional religious subjects, one of them "The Crucifixion."

Vermeer's "Woman Weighing Gold" and "Young Girl with a Flute" and works by Hals, Cuyp, Potter, van Ostade, de Hooch, and Hobbema give

a good idea of the greatest century in Dutch art.

Nine works by Van Dyck include several of the splendid Cattaneo family portraits, outstanding being that of Marchesa Elena Grimaldi.

The British School of the 18th and 19th centuries is represented in portraits by Gainsborough, Reynolds, Romney, Hoppner, and others, two strongly contrasted landscapes by Constable, and three landscapes by Turner.

Two sculptures by Donatello, "David" of the Casa Martelli and a bust of Cupid; works by Desiderio da Settignano, Rosellino and Luca della Robbia, "Pietro Aretino" by Sansovino, and a series of small Italian bronzes, among them pieces by such masters as Cellini and Giovanni da Bologna, put the National Gallery on a high plane in this field. In addition, French sculpture of the 18th century is represented in four Houdon portrait busts, and works by his contemporaries and immediate predecessors.

The Widener Collection, added to the great gifts of Mellon and Kress, does much to carry the National Gallery to the front rank of the world's great museums.

## NEW MUSEUM BUILDINGS AND WINGS

The National Academy on Jan. 8, 1942 moved into its imposing new home, composed of two remodeled houses at Fifth Avenue and 89th Street, New York, given by Archer M. Huntington. To celebrate the move, an exhibition, entitled "Our Heritage," was opened; it comprised 322 paintings, sculptures, and prints, all but 70 of which were drawn from the Academy's collection of 2,000 works, and ranged from paintings by the first president, Samuel F. B. Morse, to the late Jonas Lie. The 116th annual in the spring comprised 346 paintings and sculptures.

The Swope Art Gallery opened in Terre Haute, Ind. on March 21, made possible by the generous bequest of Sheldon Swope with the policy "to purchase, exhibit and encourage the

art of contemporary America." For more than a decade after his death in 1929, the original fortune of \$2,000,000 was halved by litigation. Upon settlement of the case in 1940, the Swope Block building was remodeled into a modern art gallery. Current income from the bequest is used for purchase of contemporary American art and administration of the gallery. John Rogers Cox, youngest American Museum director (aged 26) during 15 months before the opening, purchased 23 paintings by living Americans as the nucleus of a collection, and has added several paintings since.

**"Art of This Century."**—A new modern gallery called "Art of This Century" was opened in October by Peggy Guggenheim at 30 West 57th street, New York City, to house her well-known collection of paintings and other works in the contemporary idioms ranging from cubism through surrealism. Its four exhibition galleries are of advanced modern design; one has curving walls of blue canvas, from which the paintings appear to hang unsupported in space. Lighting systems alternately illuminate and darken some exhibits. A large wheel brings Duchamp paintings into view, and a whirring electric motor revolves Klees for 10 seconds each.

**Pennsylvania State College Collection.**—A collection of 150 paintings and prints comprised the nucleus of the permanent collection of a new museum opened at Pennsylvania State College, called the Mineral Industries Art Gallery, on March 30. The works are gifts to the College from faculty members, industrial organizations and alumni and the subjects deal with activities in the mineral industries.

**The Philadelphia Museum of Art** opened 12 new galleries in November, devoted to Oriental art, predominantly Chinese. More extensive installations are on view from the Museum's rich collections of Chinese art, ranging over its entire history from archaic period to the present.

**The Santa Barbara Museum,** first opened in June 1941, opened its new

Stanley McCormick Wing, named for the donor in March 1942, with a large exhibition of French paintings.

**Hawthorne Memorial Gallery.**—Charles W. Hawthorne, for three decades the outstanding painter and instructor of Provincetown, Mass., until his death in 1930, was commemorated by The Provincetown Art Association, which erected a Colonial-style exhibition building and dedicated it July 18 as the Hawthorne Memorial Gallery with a selection of Hawthorne's paintings, lent from private and public collections, including the Metropolitan Museum of Art, which lent the famous "Trousseau."

**"Memory Lane Wing,"** given to the High Museum of Art, Atlanta, Georgia by Mrs. Thomas K. Glenn, was opened the end of 1941. It is devoted entirely to historical paintings given in memory of departed friends and relatives. Already installed were seven paintings from Mrs. Glenn, each accompanied by a placard with a brief biographical sketch of the person commemorated. Conditions of gifts assure authentic originals by old masters or recognized artists deceased at least 30 years.

#### MUSEUM ACQUISITIONS

**Italian Renaissance.**—Outstanding works of the Italian Renaissance School which entered permanent collections during 1942 include Titian's "Man with a Falcon," from the Earl of Carlisle, Castle Howard collection, the most important purchase to date, by the Joselyn Memorial of Omaha, Neb.; a small panel by Tintoretto of a hermit or poet, given to Princeton University's Museum of Historic Art by Mrs. Henry White Cannon; the so-called "Terris Portrait" of a young man by Giorgione, acquired by San Diego Fine Arts Gallery; Antonio Moro's portrait of a lady acquired by the Art Institute of Chicago, which also received as a gift from Charles H. and Mary Worcester, Giovanni Martinelli's "Judith." Finally, Bronzino's portrait of Eleanor de Toledo and her son Garcia, having both historical value and artistic merit, was given to the Detroit Insti-



## PAINTING

tute of Arts by Mrs. Ralph Harmon Booth; the costume worn by the duchess in this painting made possible identification of her resting place when the Medici tombs were opened in 1857 and many name plates were missing.

**Northern Schools.**—In the munificent bequest of the late John L. Severance to The Cleveland Museum of Art (September) comprising a total of 265 items in highly varied collections of sculptures, tapestries, ceramics, jades, prints and furniture, there are 16 masterpieces of painting mostly from the schools of northern Europe, including an early Rembrandt portrait, early Flemish panels, Dutch landscapes by Hobbema and Cuyp, Van Dyck's famous portrait of Sir Charles Hammer, a panel by Cima da Conegliano, and excellent portraits of the 18th century French and British schools. The Joslyn Memorial, Omaha, made another outstanding acquisition in Rembrandt's portrait of Dirk van Os.

**Spanish School.**—Velasquez's great portrait of Cardinal Borja was given to the Metropolitan Museum of Art by Samuel H. Kress. Goya's portrait of Dona Teresa Sureda was presented to the National Gallery of Art by Mrs. Peter H. B. Frelinghuysen in memory of her parents, Mr. and Mrs. H. O. Havemeyer; it is a companion to her earlier gift (1941) to the National Gallery of Goya's portrait of Don Bartolomé Sureda.

**French School.**—The Metropolitan Museum of Art acquired "The Birth of Cupid," attributed to the rare Fontainebleau School, 16th century. The National Gallery of Art received as a gift from Mrs. John W. Simpson of New York, a splendid version of Chardin's "Soap Bubbles." (She also gave a late Raeburn, portrait of the sons of David Munro Binning, in the quieter colors of the Scottish master's English manner.) The National Gallery's French section was greatly augmented by further generous indefinite loans from Chester Dale, whose first loan of 25 19th century French paintings was mentioned in THE AMERICAN YEAR BOOK for 1941. The

1942 loan comprised 41 19th century French paintings, placed on exhibition April 11; they fill three galleries. Mr. Dale also lent fine examples of American painting as well as masterpieces by El Greco, Boucher, Zurburan, Rubens, Tintoretto, Drouais, and Chardin.

**American School.**—The National Gallery was given two excellent paintings by John S. Copley done in his later years in England: the "Red Cross Knight" (embodying portraits of the artist's children) and a portrait of Sir Robert Graham; these were presented by Mrs. Gordon Dexter of Boston. Continued encouragement of contemporary American art was assured by Gertrude Vanderbilt Whitney, who died April 18, bequeathing \$2,500,000 to the Whitney Museum founded by her, which has already been a great boon to living artists. The New Britain (Conn.) Institute made one of the most important group purchases, acquiring in May 25 oil and watercolor paintings (and five etchings), all by Americans. The Pennsylvania Academy of Fine Arts acquired eight paintings and three sculptures by Americans from its annual exhibition in February. The Boston Museum of Fine Arts made 23 purchases of contemporary paintings and other works for its new Gallery of Provisional Acquisitions.

**Modern Foreign Schools.**—The Walker Art Center, Minneapolis made its first modern acquisition in Franz Marc's "Blue Horses," painted in 1911, one of the most famous paintings of the 20th century. The Philadelphia Museum received from Christian Brinton his comprehensive collection of Art, largely composed of Russian paintings; there are also works by Scandinavians and Central Europeans. The Museum of Modern Art, New York, acquired early in the year, by both gift and purchase, six paintings and a number of other works by important artists of Latin America.

## MURAL PAINTINGS

**St. Louis.**—The United States Government Section of Fine Arts con-



tinued to hold competitions for mural paintings in Federal buildings, although its activities were less extensive than heretofore. Mention should be made of a few outstanding murals completed under Government auspices. The major work of the year completed in this class, was the series of murals for the St. Louis Post Office, by Edward Millman and Mitchell Siporin, who won in 1939 this much-coveted commission from the Treasury Department, carrying \$29,000.00. Episodes of Missouri history occupy nine panels, and four others are devoted to themes from poems by Walt Whitman; all are executed in true fresco. The artists collaborated on the theme of the series and the development of the composition, but each painted his own areas independently. The Mississippi River forms the background of the murals, binding them together.

**Washington, D. C.**—A large mural panel by Kindred McLeary was completed in the lobby of the new War Department building. It depicts the freedom of religion, speech, culture, and the press, protected by the armed might of the United States. The new Social Security building was decorated with two mural panels in fresco secco by Seymour Fogel; their themes are "Security of the People" and "Wealth of the Nation."

**New York and Vicinity.**—Edward Laning completed his series of murals for the New York Public Library, begun in 1938, under auspices of the WPA Art Project. The last panel is a ceiling mural 18 x 42 feet, on the theme of Prometheus. Anton Refregier's murals for the Plainfield, N. J. Post Office were highly praised. They depict a 19th century American quilting bee and a group of such legendary figures as Paul Bunyan and Johnny Appleseed. A mural painting "Flight" was completed by James Brooks after three years work under New York City's WPA Art Project for the Sea Plane Terminal at La Guardia Airport. It is a circular painting, covering 2,880 square feet, and tells the story of flight from primitive man to the giant Clipper, including Daedalus.

da Vinci, and many historical figures. The New York Zoological Park aquarium, in which were installed the 2,500 fish transferred from the old aquarium in the Battery, was decorated with vivid murals by Walter Addison and Helen Damrosch Tee Van, to provide a setting resembling the natural habitat of the fish.

**Naval Academy.**—Two murals by Buell Mullen were installed in the U. S. Naval Academy. They depict Hong Kong Harbor and London Pool and are executed on sheets of stainless steel 18 x 6 feet in dimensions.

**University of Wisconsin.**—Not all the murals completed during the year were under Government auspices. An outstanding work was the large mural on the Emancipation Proclamation painted by John Steuart Curry, and installed in the University of Wisconsin Law Building.

## EXHIBITIONS

**"Artists for Victory."**—Exhibitions revealed much variety in subject matter, and in size ranged from one-picture displays, such as that of Bradford Lambert's posthumous portrait of Captain Colin P. Kelly, Jr., first hero of America's war with Japan, shown at Arthur U. Newton Galleries, New York City, for benefit of the U.S.O. and later presented to West Point and hung in Memorial Hall, to Mammoth group affairs. Foremost in the latter category is the "Artists for Victory" exhibition of contemporary American art, which opened at The Metropolitan Museum of Art, New York City, on Dec. 7, and remained through Feb. 22, 1943. This colossal display was sponsored by Artists for Victory, Inc. and comprised 1,418 works, of which 532 were paintings, the remainder being sculpture and prints. They were selected from more than 14,000 entries; 42 of them received prizes, totalling \$52,000 appropriated by The Metropolitan Museum's trustees, in addition to funds covering the costs of the show. The Museum thus endeavored to "proclaim its faith in the American artist during one of the most critical years in our history." The major prize of

\$3,500 went to John Steuart Curry for his "Wisconsin Landscape," while the first medal for "best painting in the exhibition" (which was *hors de concours*) was given to Ivan Le Lorraine Albright for his "That Which I Should Have Done, I Did Not Do."

**Old Masters.**—The largest exhibition of Dutch masters assembled in the United States since the famous Hudson-Fulton centennial show of 1908-09, was that at Duveen Galleries, New York, Oct. 9-Nov. 7. It was organized under the joint patronage of Mrs. Franklin Roosevelt and Crown Princess Juliana of The Netherlands. It comprised 70 canvases from private and public collections, including 15 paintings each by Rembrandt and Hals, others by Vermeer and lesser masters, many of which had not heretofore been publicly shown in this country. The show averaged 1,000 visitors daily who paid 50¢ each, the proceeds being divided between the Queen Wilhelmina Fund and American Women's Voluntary Service.

A superb exhibition of Flemish primitives was shown in April at Knoedler Gallery, New York. Twenty-seven panels of the 15th and 16th centuries were shown under patronage of Belgian Ambassador Count van der Straeten-Ponthoz, as a benefit for Belgian sailors serving with fleets of the United Nations.

An admirable one-man show of Rembrandt opened at the Metropolitan Museum of Art the end of January, composed entirely of works owned by the Museum, but not generally shown as a group because of conditions of bequests and gifts. It comprised 16 of the Museum's 25 paintings by Rembrandt, as well as 90 prints and drawings.

"Giorgione and His Circle," comprising 41 paintings lent by museums, dealers, and collectors, was shown at Johns Hopkins University, Baltimore, in March.

"Six Centuries of Portrait Masterpieces," 55 paintings by 50 artists, was the Milwaukee Art Institute's major offering for the year. It ranged from 1,440 to 1,940, beginning with

Giovanni Bellini; Clouet to Picasso; Dutch and Flemish; 18th century British; and Americans, Gilbert Stuart to Thomas Benton.

**Masters of 19th Century.**—The Art Museums of Baltimore and Worcester collaborated in holding an important loan exhibition of 37 paintings by Van Gogh, October-November. The show was organized with the aid of the Netherlands Government-in-Exile for the benefit of the Queen Wilhelmina Fund. "The Serene World of Corot," a large retrospective exhibition covering the period 1826 to 1875, was held for the benefit of the Salvation Army at Wildenstein Galleries, New York, November-December. At the same time, a survey of Cezanne in 23 paintings ranging from 1873 to 1906 was held at the Paul Rosenberg Gallery, New York for the benefit of the Fighting French. Two 19th century American painters, John Quidor and William S. Mount, were commemorated with their first comprehensive exhibitions, held at the Brooklyn Museum.

The first comprehensive exhibition of Mary Cassatt's work was held at the Baltimore Museum in December 1941 and January 1942. On view were 156 works—paintings, drawings and prints—loans from the Cassatt family and other collectors and museums. The Cincinnati Museum held a retrospective exhibition of work by Charles Dana Gibson, honoring his 75th birthday, in the fall. It included most of his best drawings, and a large selection of his paintings. The largest exhibition of work by Henri Rousseau yet seen in the United States was that of 35 American-owned paintings shown early in 1942, at the Art Institute of Chicago and subsequently at the Museum of Modern Art, New York.

**Group Exhibitions of American Art.**—"Parade of Patriots," an extensive exhibition of portraits of famous American men and women from the Washingtons to the present generation, was held at Grand Central Galleries, New York in May for the benefit of scholarships in American citizenship at Barnard College. The

Boston Museum of Fine Arts held an unusual exhibition during the summer, inspired by Esther Forbes' Book-of-the-Month selection, "Paul Revere and the World He Lived In." Portraits by Copley and Stuart of Revere and his contemporaries, more than 40 pieces of domestic silver by Revere, and other decorative arts were included. "History of American Watercolor Painting" at the Whitney Museum of American Art, New York, in February was a thorough survey from the late 18th century to the present, including 65 artists from Copley to the present.

An outstanding exhibition of 36 figure paintings was shown at the Dallas and Fort Worth, (Texas) art museums in February. *Life* reproduced six in full colors and The American Federation of Arts took over 20 works for a nation-wide circuit. "American Painting of the 1930s" was shown at the Worcester (Mass.) Art Museum in February. It comprised 50 significant or famous paintings chosen from about 300 nominations submitted by 30 art critics and museum officials. Each artist represented received \$25 for use of his painting.

"On the Bright Side," an exhibition of 128 contemporary paintings and other works was shown at the Metropolitan Museum of Art in February, as pleasant and stimulating aspects of American life. Somewhat similar in theme was a show "Happier Days in the United Nations" at the Parke-Bernet Galleries, New York in June, for the benefit of the American Red Cross. The majority of the 19th and 20th century painters represented were American and French. The largest exhibition yet assembled in the United States of American Negro art was shown at the Downtown Gallery, New York the first of the year, to inaugurate a special Negro Art Fund for purchase of works to be presented to museums and other public institutions. Eighty works shown covered a range from 1851 to 1941.

**Annual Exhibitions.**—The National Association of Women Artists, New York, celebrated their golden

anniversary with a 50th annual exhibition in January. The American Academy of Arts and Letters and the National Institute of Arts and Letters held in May a combined exhibition of work by artist members, including painters. Cecilia Beaux was awarded a gold medal, given to a painter only once in each decade. A newly established Award of Merit Medal carrying \$500 was presented to Charles Burchfield for his work in watercolor painting. Ten painters were admitted to membership in both organizations.

Grand Central Art Galleries, New York celebrated 20 years of operation in support of native American art with their annual Founders Show in October, including more than 70 paintings and sculpture. Founded in 1922, the Galleries have sold more than \$6,000,000 worth of paintings and other works to American museums and homes. The Whitney Museum of American Art held in November an annual comprising all media instead of having two showings, as heretofore. It included 230 works.

The Virginia Biennial of American Painting was held in the spring at Virginia Museum, Richmond, with 225 exhibits. The Museum purchased four paintings from a list recommended by the jury. The 21st International Watercolor Exhibition at the Art Institute of Chicago in May included no European exhibitors save Rouault in its 550 works, but there were many Latin Americans and "transplanted European talents" represented. The Institute's 53rd annual of American paintings and sculpture, held October-December, was composed entirely of invited works, 236 of which were paintings. The feature of this exhibition was a comprehensive one-man show of 29 oils and other works commemorating Grant Wood, one of the "American Scene trinity" who died in February.

**Contemporary One-Man Shows.**—A survey of the career of Pavel Tchelitchew from 1925 to the present was made by 214 oils and other works at the Museum of Modern Art, New York, showing his "versatile imagina-



tion" during various "periods." Yasuo Kuniyoshi, Japanese-born American painter, held his first retrospective (covering 20 years) at the Downtown Gallery, New York in May; all proceeds from the admission charged was donated to United China Relief, with which he has been associated since the first attack on China by his native land.

**Special Relief Shows.**—The Russian War Relief Fund received total proceeds from sales of an exhibition in May at the Andre Seligmann Gallery, New York, to which artists donated 67 paintings and 10 sculptures. Watercolor paintings by textile designers of the Cohn-Hall-Marx Company, were hung by the artists in the firm's lounge, and were quickly sold, netting \$320 which was turned over to the U.S.O.

**War Themes.**—Exhibitions of paintings of war themes were held in various places, two of the most notable taking place in March. One comprised 50 paintings and sculptures of the 18th and 19th centuries at the Downtown Gallery, New York and was entitled "Battles and Symbols of the U. S. A." The other was an exhibition of marine painting at the Detroit Institute of Arts; it ranged from the 15th century to the present in 140 paintings and prints of Dutch, Italian, French, English and American schools.

## BUSINESS PATRONAGE OF AMERICAN PAINTERS

*Life* continued to assign artists to specified projects. The third series of paintings commissioned dealt with "Heroes of U. S. Supply Lines," and was painted by Barse Miller, who gathered his material first-hand. Reproduction of these began in *Life's* issue of May 11, while in that of May 25 appeared Tom Lea's paintings of the North Atlantic Patrol. He was at sea on this project when the Axis declared war on the United States.

Abbott Laboratories commissioned 40 paintings, of which the first 14 by as many artists were completed during the summer and exhibited in New

York City at Associated American Artists Galleries. Abbott Laboratories turned over ownership of these paintings to the United States Government, which issued posters based on two of them: John Steuart Curry's "Our Good Earth—Keep it Ours" and Lawrence Beall Smith's "Don't Let That Shadow Touch Them." Other artists were Joseph Hirsch, Paul Sample, Aaron Bohrod, Thomas Benton, McKnight Kauffer, Ernest Fiene, Georges Schreiber, Peter Helck, Andrew Wyeth, Jon Corbino, Andrée Ruellan, and Marion Greenwood.

Castleton China Company commissioned 15 contemporary painters to prepare decorations for its 1942 china offering. The original paintings, dinner sets, and odd pieces decorated were shown at Altman's in New York, then started a national tour in November. All painters are living in the United States, although they represent five nationalities.

The Sonotone Corporation, manufacturers of hearing aids, commissioned John Pike to paint four large watercolors on the theme of American music.

## INTERNATIONAL

From Chile an exhibition of 167 paintings and other works was brought to the United States for a good will tour by the Toledo Museum where it opened in April, as the first showing on a national circuit. It was sponsored by the Ministry of Education in Chile, and the Toledo Museum had the help of the Office of Coordinator of Inter-American Affairs.

A large Western Hemisphere poster competition was held by the Museum of Modern Art, New York, which awarded 34 prizes totalling \$2,500, and exhibited the works in October. There were 855 entries, 473 of which were from Latin-American countries. Argentina took five awards.

Jesus Guerrero Galvan, Mexican painter, was appointed Latin-American artist-in-residence at the University of New Mexico, Albuquerque, June through December. This first appointment in this field was financed



by a grant from the Coordinator of Inter-American Affairs.

George Biddle, American painter, and his wife, Helene Sardeau, sculptor, were jointly commissioned by Brazil to decorate the walls of the National Library in Rio de Janeiro. The painter executed two mural panels 20 x 13 feet each on the theme, "Intelligence and Humanity Shall Rule Our World."

Contemporary British Art was exhibited by the Toledo Museum in autumn; the show comprised 158 paintings and other works. Forty-five of the paintings crossed the seas during the summer.

#### ART SALES AND PRICES

Renoir's famous painting "Mussel Fishers at Berneval" was purchased by Dr. Albert Barnes for his collection of more than 200 Renoirs at Merion, Pa. at a price reported to be \$175,000, said to be the second highest price for a painting by this artist.

The Parke-Bernet Galleries of New York City, the nation's largest auction firm, reporting on the season 1941-42, stated that a total of \$4,007,823 was realized, a gain of more than 10 per cent over the previous season, and the highest total since the pre-depression period 1928-29. Attendance passed 120,000 for 79 sessions. The highest price realized for a single item was \$39,000 for John Hoppner's portrait of Frances Beresford. Romney's portrait of Capt. William Kirkpatrick fetched \$31,000; Hobbema's "View of Westphalia," \$30,000; "The Right Hon. William Pitt" by Gainsborough, \$26,000; Romney's "Little Artist," \$25,000.

The Kende Auction Galleries, operated by Gimbel Brothers, New York, brought in \$5,255,000 during 1941-42, in 61 sessions. Highest price realized was \$19,000 for a Vaughan-type Washington portrait by Stuart.

At the Art Institute of Chicago, 21st International Watercolor exhibition, 36 works were sold for a total of \$4,400.

#### VARIA

The Whitney Museum of American Art proposed in February that American museums should sponsor a central agency for research in American art, in particular relation to problems of authenticity. The American Art Research Council was established in April at a meeting of museum representatives, to combat the increasing forgery of American paintings by famous artists such as Albert Ryder, Blakelock, Winslow Homer, Whistler, Sargent, and others. The Whitney Museum contributed offices, clerical assistance, and services of two curators; the Brooklyn Museum contributed services of its laboratory expert and use of laboratory; other institutions made financial contributions.

The Index of American Design, comprising 20,000 paintings, watercolors, and other works, illustrating all aspects of native American design, which was made under the WPA Federal Art Project, was taken over by The Metropolitan Museum of Art which is making the material accessible to designers, artists, students, and others in various ways.

#### SCULPTURE

By ROSE V. S. BERRY  
ART CRITIC AND WRITER

#### INFLUENCES—PAST AND CURRENT

Art is a living thing born of the day and the hour. All human experience, to the degree that it is com-

municable, is expressed in some manner of speech devised by man. In so far as that speech is an art involving form and substance, the message may be conveyed by some phase of sculp-

ture, which is an art dependent upon the effort man makes to express himself.

As an expression, art is the crystallization into a fixed statement of an imaginative idea or an experience; often, in the final analysis of its existence it is both—the factual experience recast in the fanciful idea. To assist him in obtaining variety, to restrict or gain greater freedom for his subject matter, the sculptor is at liberty to choose from any one of many mediums, each of which will make its own artistic demands upon his skill. The sculptor can not work in brass as he would with bronze; he can not carve wood as he must chisel marble; he can not deal with brittle, stratified onyx as he would torture granite. Always there is the matter of fitness and size with which to reckon.

As the story of American sculpture is presented in these pages year after year there is not much change, particularly, after the artist has established his manner, discovered for himself the innate possession that is his alone, that all pervading characteristic in which he believes and which developed to real excellence identifies all his handiwork. In sculpture this personal note might manifest itself entirely in technic, in a favorite pose; strength or delicacy, awkwardness or grace; it could be some special emphasis, elongation, or rounded, squatty bulk; it could be the muscular power of a man or brute, or the sleekness of a merely healthy body. Whatever the manner with which the artist chooses to endow his statement, if it is an exaggeration it must enhance without becoming a tedious repetition. When one recalls that the Greeks recognized 95,000 combination poses for the human body, it is not there that the artist might fear monotony, or wearying uniformity.

The events of 1942 multiplied the facts constituting this truth until the art of the sculptor is completely jarred from the even tenor of its way. The world has become so small that one's knowledge of it is no longer confined by horizons. From the beginning art

has been a mystery, something associated with religion.

The individual statue, no matter how small and especially if it was heroic in size, was first a god and later in history it might be a ruler. The inability to give the semblance of life and meaning to clay and stone was soon foreby. Then it was a matter of locality and the people themselves. Archaeology long since established the fact that history was cut into stone slabs and tablets, the ten commandments presumably came from the Deity directly to Moses. The temple walls of ancient Egypt, the rocky-faces of Assyrian hillsides, the terraced slopes of eastern China are graven with the gods and kings of antiquity. The only restraint placed upon the art was the subject matter. For one group of people there could be no "image," no likeness of a god for God Himself "was a jealous God." Another group could not make a living thing for it became something that had the right to claim the life of its maker. To others, a liberal faith granted every likeness; there was no whim but that it might be given a form.

The sculpture of Christian peoples, however, was confined to a restricted number of subjects: (from the time of the crusades to the French sculptors Barye and Rodin, prejudice, taboos, and custom held the art to) the lamb, the horse, the lion, occasionally the dog; sacred birds, the cow; gods and portraits; mythical beasts and birds—a griffin, which was half lion and half eagle; the beast-human combinations, the centaur and minotaur; the fish-human pairs which were mermaid and merman, and finally, the irresistible little fellow, the horned-horse, which as the unicorn pranced through several centuries. It was Barye and Rodin in France, Phimister Proctor and Arthur Putnam in the United States, who broke all barriers and left the sculptor free to model and chisel whatsoever he desired. This is the threshold upon which the American sculptor stood until Dec. 7, 1941. In one brief year, with the American Navy

and Army, he has gone round the world, fighting upon 50 fronts. With the submarines he has gone beneath the sea. With America's planes he had soared above the clouds. Who can tell what he will bring back? What limit can be placed upon his imagination?

#### ARTISTS' COUNCIL FOR VICTORY

Twenty-one art societies and associations, with a membership of 10,000 artists, in the vicinity of New York City, met and merged "for the duration" in an organization to be known as the Artists' Council for Victory. The purpose is to unite in one body and thus to cooperate more effectively in winning the war. The sculptors' organizations represented are The National Sculptors' Society, The Sculptors' Guild, National Academy of Design, The National Women Painters and Sculptors Society, The Allied Artists, and the sculpture group of the American Academy of Rome. The activities of the Council for Victory will include all that can be done locally together with what can be offered to the Government.

The Artists for Victory, with a fund of \$52,000, have sponsored a purchase-prize competition, \$25,000 of the fund to be devoted to awards for 14 sculptures, the winners to be selected by Alexander Archipenko, Cornelia Chapin, Walker Hancock, Donal Hord, Paulanship, Carl Milles, and Albin Polasek.

Artists for Victory awards were chosen from 305 sculptures, which were selected from 14,000 examples that were submitted in one way or another. The first purchase prize of \$5,000 went to Jose De Creeft for his statue "Maternity." The second prizes of \$3,000 each were awarded to Lillian Leitzel and Chaim Gross. Third prizes of \$2,500 each went to Henry Kreis and Gladys Ederly Bates. Fourth prizes of \$2,000 each went to Alexander Calder and Frances Kent Lamont. Three fifth prizes of \$1,000 each went to Ahron Ben-Shmuel, Herbert Ferber, and Grace H. Turnbull. Four other prizes of \$500 each went to Richmond Barthé,

the colored sculptor; Eugene Gershoy, W. W. Swallow, and Carl Walter.

The Artists for Victory, through their sculptors, have sponsored a Navy Trophy. Among the competitors were Nathaniel Katz, John Hovannes, Carl Schmitz, Milton Hebal, and Paul Manship. Prizes of \$100 were given to the competing subjects of George Lober, Erwin Springweiller, Louis Slobodkin, F. M. Corte, and to Medico for a second model. The first prize of \$1,000 and the commission, agreed upon by the Jury—Col. Douglas Johnson, Commanding Officer Army Air Base at Mitchell Field; Major Gilmore Clarke, Eric Gugler, Edward Rowan, Cornelia Chapin, Peter Dalton, Ulric Ellerhusen, Chaim Gross, George Lober, and Warren Wheelock—went to Thomas Lo Ledico. The statue, "Wings for Victory," the figure of an aviator, will be of heroic size, 26 feet in height, and will probably be placed before the New York Public Library on Fifth Avenue.

#### SCULPTOR REFUGEES EXHIBIT

The Baltimore Museum of Art has extended hospitality to European sculpture and sculptors, including some sculptors recently deceased, "for the duration." Among the 26 artists are Mailliol, Despiau, Brancusi, Kolbe, Lehmbruck, Lipchitz, Kollwitz, Zadkine, Wlerick, and Czaky, whose work, including that of Barlach and the American Epstein, was exhibited in the 29th Annual Show of the Allied Artists.

#### WESTERN HEMISPHERE EXHIBIT

Western Hemisphere Sculpture, as a gesture toward the "Good Neighbor Policy," attracted much attention in Washington, D. C. during the time it was shown at the Corcoran Gallery. The work of Augustin Riganelli of Argentina, Francisco Zuniga of Costa Rica, Amador Lira of Nicaragua, Rodrigo Arenas Betancourt of Colombia, Gabriel Oscar Bracho of Venezuela, and Jose Luis Zorrilla de San Martin of Uruguay called

forth much comment from visitors to the exhibition.

#### WAR'S PRACTICAL IMPACT

The war has brought other changes to the American sculptor. Priorities have deprived him of metals; shipping facilities have made hard woods a luxury and put stone almost out of possibility. Probably, many sculptors have arranged to work in other ways during the war. Ralph Stackpole, San Francisco's member of the National Artists' Committee, has given up his monthly visits to Washington, sold his downtown studio because of the housing shortage, and for the same reason leased his hillside home in Sausalito; and having purchased a tractor he has gone to farming a valley ranch to feed those who will need it in the coming months.

Scanning, for the sake of this list, one month's exhibitors over the nation, out of 82 exhibitions over the United States, only three were devoted to sculpture. In New York City, for the same period, out of 87 exhibitions, five were devoted to the sculptors. In looking over the annals, it was amazing to discover them restricted—because of the expense, and war necessities—to nearby areas.

#### ONE-MAN SHOWS

Peter J. Grippe, a Buffalo sculptor, exhibited 24 sculptures in terracotta, stone, plaster and wood, most of them notable for their movement—portrayed activity.

Mary Ogden Abbott, at the O'Tool Gallery, exhibited a large number of wood carvings, the whole theme of which was life of forest animals.

George Cerny's exhibition at the Clay Club included his work for ten years back.

De Filippo showed 18 sculptures of interest, at the Estelle Newman Gallery.

Nicolaus Koni attracted interest both by his art and his subjects: "The Soul of Rotterdam," "Crucifixion," cut from walnut; portraits of C. Aubrey Smith, Marion Anderson, Winston Churchill, and General Douglas MacArthur.

Juan Jose Callandrias and his wife, Challis Walker Callandrias, were exhibitors in the Delgado Museum, New Orleans.

Maria Martins, a Brazilian sculptress who has studied extensively in Europe but whose themes keep her work native in its interests, exhibited in Washington and New York, with a circuit of museums in prospect.

Alexander Calder exhibited his "Mobiles" and "Stables" at the Matisse Gallery.

Anna Hyatt-Huntington's work was a notable exhibition in Montgomery, Ala.

Max Kalish gave an exhibition of his sculpture in Montclair, N. J.

Jose De Creeft, William Zorach, Archipenko, Hesketh, Epstein, Jo Davidson, Robert Laurent, Zadkine, and Heinz Warneke were among others putting on one-man exhibitions.

#### PLACEMENTS, INSTALLATIONS, AND COMMISSIONS

Alfeo Faggi's "Saint Francis of Assisi" was purchased by the Albright Gallery, Buffalo, N. Y.

Wheeler William's "Fountain of Youth" was installed in the patio of the Norton Gallery, Palm Beach, Fla.

Maurice Sterne's sculpture—a seated bronze—was purchased by the University of Nebraska.

Malvina Hoffman's "Sicilian Fisherman" was bought by the Museum of Hagerstown, Md.

A Lipchitz, bronze group, "Rape of Europe II," was donated anonymously to the Museum of Modern Art, New York City.

The Artists of Indianapolis commissioned Marie Goth to do a portrait of Will Hays, the Movie Czar, who is a native of Indiana.

Michael Lanz was the successful competitor seeking the commission for two large limestone figures to flank the Federal Trades Building in Washington.

Robert Russin's commission (awarded in 1939) the "Mail



Thrower," was installed in the Post Office at Evanston, Ill.

### HONORS, AWARDS, AND SCHOLARSHIPS

Prix de Rome was tied in 1942 by two equally gifted applicants. Elmore Cave of Philadelphia was awarded for his study, "A Riviter," on the night shift of the Baldwin Locomotive Works. Robert H. Cook of Boston, shared honors. Angelo Frudakis of the Carnegie Institute of Technology and John S. Marchese were also given prizes which consisted of cash payments.

The Guggenheim scholarships were given with the idea that they were to be used in study at some American university. The San Francisco Art Association, National Academy of Design, Louisiana State University, and Southern States Art League also gave traveling scholarships without stipulation as to what should be accomplished.

The 137th Annual of the Pennsylvania Academy of Fine Arts, gave its Widener Memorial Medal to Janet De Coud, for her small seated figure entitled "Deborah's Song." The aspect of sculpture was changed by priorities, most of the examples being in wood, cast stone, or ceramics.

The American Academy of Arts and Letters and the National Institute of Arts and Letters collaborated this season in making their combined ten awards to non-members. The first prize of \$1,000 went to Donal Hord, a California sculptor. Included among their exhibitors, as members, were Rudolph Evans, Paul C. Jennewein, Edward McCartan, A. A. Weinmann, John Gregory, Stirling Calder, Chester Beach, Allan Clark, Paul Manship, Herbert Hazeltine, and Frederick W. Ruckstull.

The 50th Annual Exhibition of the Women Painters and Sculptors Association was said by the critics to have been of extraordinary interest. Their sculpture awards went to: 1. Margaret B. Kane, for her statue titled, "Blackout"; 2. Minna Harkavy, for "Negro Spiritual"; 3. Beatrice Stone for "Pig-tailed Sue."

### NEW NATIONAL ACADEMY OF DESIGN BUILDINGS

The National Academy of Design was engaged in 1942 in opening two of the splendid buildings presented to them by Mr. and Mrs. Archer M. Huntington. The Academy henceforth will be able to exhibit throughout the year a permanent collection of its own and to display its sculpture which has not been seen to advantage for years. It will surprise today's museum visitor to discover the excellence of such recently deceased sculptors' as Olin Warner, J. Q. A. Ward, Paul Bartlett, Daniel C. French, Frederic MacMonnies, Augustus Saint-Gaudens, Attilio Piccirilli, George Grey Barnard, to say nothing of the gifted men living who are too busy with commissions to exhibit. The Academy, this year, opened its doors to Harry P. Camden, Lu Dible, Margaret French Cresson, and Ricci, as associate members; Edmond Amateis and Bruce Moore were elected full Academicians.

### POSTHUMOUS HONORS FOR FREDERIC REMINGTON

The art of Frederic Remington was acclaimed by the Metropolitan Museum in a retrospective exhibition of Remington's painting and sculpture. This recognition was long overdue. Remington was a man of many talents any one of which should have brought him lasting fame. His writing was clean cut clarity excelled only by his line which is like a knife incision. He was among the first American painters to use flame, orange, and brick-reds, yellow and bottle greens and the dark neutralizing blues in picturing night and camp-fires. With quite another palette he captured the desert's heat and glare. It was in sculpture, however, that he left all other artists behind, and it was his sculpture that was utterly rejected by art critics. Remington had studied two years at Yale's School of Fine Arts, followed by hard work with the Student's Art League in New York. To these preparatory studies he brought a phenomenal power of vision. His eye

enabled him to catch and hold the instantaneous pose of a horse and its rider so accurately that its microscopic exactness has been established by the moving-picture camera. Consequently, it is one of the anomalies of these queer days when an upright string, a lump, or a curved mass, as sculpture, is not only intriguing, but acceptable to the critics and public, that Remington's superb sculpture should suddenly appear as true art based upon truth, and that for the brief period of an exhibition it should supplant subconscious fluidity, smeared line, and blurred vagaries. Remington died at the age of 49. He left 2,000 pictures, 73 illustrated books, 13 of which he had written, but, it is in his small bronze masterpieces that his real fame lies. "The Cowboy," "Bronco Buster," "The Outlaw," "The Scalp," "The Cheyenne," and "The Rattlesnake" are a few of his extraordinary equestrian subjects. They are wonderfully executed, but they are eclipsed by his groups of playing and fighting men and horses.

#### FREDERICK WELLINGTON RUCKSTULL

Frederick Wellington Ruckstull died May 26 in New York. His fame began with honorable mention in the Paris Salon of '88. He was awarded a Grand Medal at the Chicago World's Fair. He was sculptor-chief of the Atlanta Exposition, and active in the formation of the National Sculpture Society, New York's Municipal Art Society, and the Architectural Society of New York. His work is in several museums, including a heroic bronze in the Library of Congress, Washington, D. C.

#### ABESTINIA ST. L. EBERLE

Abestinia St. L. Eberle's passing will leave a void. She was not a great artist as artists are recognized, but she had rare talent and left an indelible impression of New York's little street gamin. She used her theme without monotony. Her small bronzes were among the few that brought a smile along with aesthetic approval.

#### GERTRUDE VANDERBILT WHITNEY

In the passing of Gertrude Vanderbilt Whitney, the cause of American art suffered a great loss. Mrs. Whitney's generosity toward the talented beginner was something for which she will long be remembered. As an artist, her talent was in competition with her great wealth; recognition would have come to her sooner and in a greater degree had she been a woman struggling to establish her work. Mrs. Whitney's output is not prolific, but there are some excellent things to her credit. Her "Titanic Memorial" in Washington, D. C. is outstanding. Inspired by the First World War, she did the "Doughboy," "Gassed," and "In The Trenches." She modeled and presented two war memorials—one each—to France and Spain. Her own memorial will be her endowed Whitney Museum, devoted to the cause of the unknown American of talent, together with the preservation of the new and fresher work of artists who with her help took their place in America's art world.

#### GUTZON BORGLUM

Death came to Gutzon Borglum within a few weeks of the completion of his gigantic task in Dakota's Bad-Lands. Fortunately, the portraits of America's best loved and most revered presidents—Washington, Jefferson, and Lincoln—were so far advanced that Borglum's son could finish them. This work requiring years to perform had demanded the skill of an engineer and a mechanic, the talent of an architect, and the vision of an artist—a daring sculptor. It was Borglum's second attempt to utilize a mountain wall as a memorial for a great national theme. The first was to have been on the granite face of Stone Mountain, a few miles out of Atlanta, Ga. Borglum's friends who saw the drawings and sketches, and the working model of that venture, in the large Stamford studio, will always feel that it was the greater conception by far. It would have been a memorial to the war between the states. The lesser

height, and the greater horizontal breadth of Stone Mountain would have brought the completed scene nearer the eyes of men. The spotted balance of grouped warriors and horse-men in relief would have told more of the adventure and less of the personal hero. Without lacking portraiture, the Stone Mountain composition had more dream substance than was the artist's vision. One only has to look upon Borglum's "Mares of Mercedes" in the Metropolitan Museum to know what was lost when the Stone Mountain project failed. In his mind, Borglum went back to Egypt's walls and Assyria's carved hillsides. He longed to bring something of their permanency to the American scene—a lasting association of the land with its famous sons.

#### JO DAVIDSON'S "LIDICE"

Jo Davidson, the American sculptor whose arm-waving, shrieking, war-mad "Woman of France" was one of the great statues of the First World War, has given to America the first sculptured group whose theme is based upon the fate of Lidice. If Edna St. Vincent Millay's poem, "The

Murder of Lidice," leaves anything unsaid, Davidson has portrayed it in his sculpture. He has modeled the great hulking frames of men, who if they had been armed and alive could each have killed ten like themselves, but, they have lived for days under the stress of threat. Two hundred of them, innocent of crime, died at the will and command of "the master-mind, of Hitler, Butcher of Human-kind." Davidson has modeled the sorrow, dumb-stricken overwhelming grief of men whose souls are already dead—dead of the knowledge that nothing they can endure would be so horribly revolting as the living torture to which they leave their wives and daughters. After all, who can tell how to clutch the mud from beneath one's feet, and with a skill concealed somewhere in the human eye and brain, and his ten fingers, do what Davidson has done? What pressure, bending, stretching, scratching, and pinching off, what hollow-holding shadow, what light-stressed nodule—in clay—holds the agony of soul of Lidice's men as Davidson has combined them to tell his story, and the absence of the most delicate effect would mar the whole!

## ARCHITECTURE

BY PHILIP C. JOHNSON

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#### GENERAL

The year 1942 was the biggest year in building in American history but it was far from being the biggest year for architecture. This paradox was, of course, brought about by the war. On the one hand, private building was curtailed practically to the vanishing point, while on the other hand new war factories mushroomed along every railroad line in the country. Unfortunately for the art of architecture, professional architects played a minor role in this great expansion. Most of the work was done by the big en-

gineering-contracting firms which do not hire architects or very few.

#### THE NEW FACTORIES

Many of the new factories are nevertheless beautiful. Americans have long been skilled in large scale building. We have the "know how" more than any other people have ever had. By their mammoth size alone, the new factories deserve place among the wonders of the modern world. There are windowless buildings and glass buildings; rooms with unpartitioned acres of floor space; colossal

spans of 200 and 300 feet without a column, bigger enclosed spaces than man has ever created before.

Unfortunately these awe-inspiring sights are not open to public view, so this chronicle must remain incomplete for the year 1942. Unpublished and unchronicled also must remain the fine civil buildings erected by the Navy Department at their bases all over the world. By report the architects of the Navy have designed some of the best buildings of the decade.

## OFFICIAL ARCHITECTURE

Monumental public architecture was represented during the year by the largest office building in the world—the Army Building across the Potomac from the District of Columbia. Known as the Pentagon from its shape, it is so huge that mail clerks need electric trucks to negotiate the mile long corridors. The style of the behemoth is the slightly scraped "Classical," beloved of capital builders in the twentieth century. The *Architectural Forum* irreverently called it "Wilhelmstrasse modern."

In contrast with the ponderous officialdom of the Pentagon are the vast number of temporary buildings that sprang up in Washington during the year. Under the expert leadership of George Howe, the newly appointed supervising architect of the Public Works Administration, simple modern structures were erected much better both in design and execution than the temporary buildings of the last war and much more restful to the eye than the remainder of official Washington.

## HOUSING

The program to meet the dire need of housing the workers in America's vast new production centers bogged down during 1942. The 140,000 dwelling units contracted for by public agencies during the year were woefully inadequate. Inadequate as well were the architectural standards of what was built. The enlightened policy of the previous years of commissioning leading architects to design whole settlements had to be scrapped

in favor of getting emergency structures building as quickly as possible. Added to other difficulties, even lumber became scarce.

Henry J. Kaiser, with his usual verve in face of all obstacles, succeeded during 1942 in building the world's largest housing project for his shipbuilders. The town of Vanport is now the second largest town in Oregon. The city is not beautiful; it is not well built; the housing accommodations are below standard; but the miracle remains: it was built.

## TECHNICAL DEVELOPMENTS

In the field of new materials and new construction methods the year was fruitful. The shortage of steel strained the ingenuity of engineers in the use of wood and concrete for new purposes. Especially significant for architecture were the development of a vaulted concrete thin-shell roof for factories and the greater adaptation of graceful laminated wood bent beams and arches for long span airplane hangar construction.

In the housing field, factory prefabrication was discussed as much as before, but most houses were still built on the site as they always were. Pioneer work with prefabrication was done on the West Coast by architects Vernon deMars, Franklin and Kump, and William Wurster for demountable houses, "duration dormitories," and schools. In Vanport, Henry Kaiser employed mass production methods on the site but no factory prefabrication.

## DESIGN

Very few private buildings were built during 1942 and extremely few deserve mention for their design. Two, however, are of very unusual importance. In Columbus, Ind., the Saarinens, father and son, built a large and expensive church, which has all the charm of its Scandinavian prototypes. It is important because it proved that churches can be "modern" in design without being barren.

The second building of the year was a research foundry building for the Illinois Institute of Technology in



Chicago designed by Miës van der Rohe, who is the director of the Institute's Department of Architecture. It is the first large building to be built in this country by any of the European leaders of the modern movement in architecture. Its uncompromising severity, startling against the Chicago background, marks it as a milestone in the development of the art of architecture.

#### PUBLICATIONS

The outstanding books of the year were Prof. H. R. Hitchcock's authoritative work, *In the Nature of Materials: The Buildings of Frank Lloyd Wright*, and J. L. Sert's *Can Our Cities Survive?* This latter book

is a collection of the findings of the International Congresses of Modern Architects. The whole volume, deeply influenced by the work on city planning of the great French architect Le Corbusier, is an indictment of our unwieldy, overgrown centers of population.

In the magazine field *California Arts and Architecture* remains the liveliest. During the year the staid, conservative *Pencil Points* modernized itself throughout and appeared as *The New Pencil Points*. A new quarterly *Task* originally published and edited by students at the Harvard Architectural School appeared as the voice of progressive younger architects.

### MUSIC AND THE OPERA

BY OSCAR THOMPSON  
EDITOR, *Musical America*

#### MUSIC OF A WAR YEAR

For the first time since the Civil War, when the music of the country was only a small fraction of what it is today, the concert and operatic life of America stood throughout a calendar year in the shadow of a great struggle involving the lives and fortunes of the nation's citizens. In 1898 and again in 1917 and 1918 there were months of peace in which the arts escaped that shadow. In 1942 its presence was continuous, but so was the country's active musical program. Every month and every week of the year had musical events somewhere that enlisted the support of a paying public.

Since in every calendar year will be found parts of two musical seasons—the end of one and the beginning of another—distinctions must be drawn between events of the 1941-42 season, ending in the spring of 1942, and those of the 1942-43 season, which opened in the autumn of that year. Intervening was the summer season of 1942, which transferred the country's musical activities quite generally

from the regular winter auditoriums to the open air.

#### THE 1941-42 SEASON

So far as available information tends to show, the close of the 1941-42 season was little affected by the war. Bookings made long before Pearl Harbor were carried out with a general adherence to schedules everywhere. Many summer events were less well attended than in the past, an important factor in this being the gasoline and tire restrictions that limited the use of private cars. The important Berkshire Music Festival at Tanglewood, Mass. was suspended, though Serge Koussevitsky replaced it by a less elaborate series of events under his own sponsorship. The other really outstanding summer series, most of which were in large cities where transportation problems were less drastic than those faced at Tanglewood, went through as planned.

#### THE NEW SEASON OF 1942-43

The new season opened with some nervousness in the fall. This was

particularly true of the West Coast. Bookings held up well and there were strong encouraging factors, such as the favorable financial record of the Hollywood Bowl's summer concerts and that of the San Francisco Opera season in October. At the close of 1942 it was estimated that concert activities had fallen off between 15 and 20 per cent, which was a much smaller decrease than might have been expected before the new season got under way. There was one casualty among the major orchestras, the Detroit Symphony's controlling body deciding not to go ahead. Some less important orchestras, including those of Dallas, Tex. and Portland, Ore., also abandoned the field. With the abolishment of the Works Project Administration, the discontinuance of the Federal Music Project's many relief orchestras, as such, was brought about, but some of the more active of these gained municipal or other support and were still playing at the end of the year.

Contrary to the situation at the time of the last war, the music of enemy countries continued to be presented in the normal way and apparently without protest. All-German Lieder recitals in the original language were again a part of concert life, at least in the larger cities. In many cases, traveling singers made increased use of English translations of European songs, but not because difficulties had been encountered in use of an enemy tongue. There was an increase in traveling opera in English, mostly by small companies of limited repertoire. Like the Metropolitan Opera Association in New York, the resident companies in Chicago and San Francisco had some performances in English but gave most of their operas in the original text, whether German, Italian, or French. The Philadelphia Opera Company remained a stronghold of translated opera. No operas have been barred because of their place of origin. Except for occasional speeches, or other ceremonials, only the playing and singing of "The Star-Spangled Banner" at musical events everywhere

differentiated the first part of the new season from its ordinary peacetime counterpart. Of various new compositions with a war subject or background, only one attracted more than momentary attention and was widely performed. This was the prodigious Seventh or "Leningrad" Symphony of Dimitri Shostakovich, the score of which was brought to the United States on a small roll of microfilm from Russia, *via* plane and motor car, in the late spring.

Music for the armed forces was of steadily growing importance, with the symphony orchestras as well as smaller groups and individual artists visiting camps, posts, flying fields and other bases. There were even a few opera performances of one kind or another. The U.S.O. (United Service Organizations) has built up a very active music department, along with many other types of entertainment, and this was increasingly effective in the latter part of 1942. The morale divisions of the armed forces continued to develop their musical activities, which included massed singing, though this particular phase of collective musical effort had not assumed in 1942 the widespread prominence it possessed at the time of the First World War.

#### OPERA AT THE METROPOLITAN

The year 1942 at the Metropolitan Opera House began with Puccini's "La Bohème" and ended with Rossini's "Barber of Seville." These events were, of course, in two different seasons, each of 16 weeks duration. That of 1942-43 began on the evening of Monday, Nov. 23, 1942, with Donizetti's "La Fille du Regiment," and for Lily Pons, who sang Marie, this was her first opening night at the Metropolitan. The season was the 58th in the history of the house (there having been two years when no opera was given), and this was the institution's second wartime opening. The performance began and ended with "The Star-Spangled Banner," which in the second instance came at the conclusion of the "Salut à la France" which provides a patri-

otic finale for the opera and includes the "Marseillaise." Miss Pons carried forward the banner of the Free (now the Fighting) French and another singer the flag of the United States. Revivals were scheduled for Donizetti's "Lucia di Lammermoor," Wagner's "Tristan und Isolde," Massenet's "Manon," Verdi's "Forza del Destino," Charpentier's "Louise," Bellini's "Norma," and Debussy's "Pelléas et Mélisande," though as the season progressed the last two of these appeared to be in doubt. The others, several of which had been absent only a season, were duly performed or in the final rehearsal stage by the end of 1942. There were no first-time additions to the repertoire and no new adventures with opera in English listed for 1942-43, but on Feb. 20, 1942 Gian-Carlo Menotti's one-act work, "The Island God," had its world premiere. The season of 1942-43 was the eighth for Edward Johnson as general manager.

The ascendancy of the conductor in opera continued. Bruno Walter and Sir Thomas Beecham were strongly representative of the trend. In the new season, Mr. Walter took on the leadership of "Le Nozze di Figaro" and "La Forza del Destino"; Sir Thomas that of "Manon" and "Louise." George Szell and Cesare Sodero were added to the staff of conductors, which also included Erich Leinsdorf, Wilfred Pelletier, Paul Breisach and Frank St. Leger. On Dec. 9, Mr. Szell made his debut with a revival of Strauss's "Salome," not included in the pre-season announcements; and later led the "Boris Godunoff" revival on Dec. 30. He also conducted Wagner's "Tannhäuser." Coupled with "Salome," two performances were given of Pergolesi's "La Serva Padrona," another unannounced revival. Mr. Breisach conducted.

Sir Thomas Beecham's debut at the Metropolitan was made in the 1941-42 season, his first appearance being as conductor of a double bill consisting of Bach's "Phoebus and Pan" (written as a cantata) and Rimski-Korsakoff's "Le Coq d'Or" on Jan.

15, 1942. Later he conducted Bizet's "Carmen" and Gounod's "Faust," Lily Djanel making her debut in the former opera. Mr. Sodero took over the Italian repertory in succession to Ettore Panizza, who chose to remain for the season of 1942-43 in South America.

Among new singers was James Melton, concert and radio tenor, whose debut was made in the English version of Mozart's "Magic Flute," continued from the previous season. Helen Traubel's assumption of the role of Isolde for the first time was of special interest. Though still paralyzed in the legs, Marjorie Lawrence returned to the company to sing the role of Venus (remaining seated on a couch) at a benefit program on Dec. 27. A schedule of lower prices prevailed in the 1942-43 season. Attendances through 1942 apparently were enough larger than before to justify the reduction. The company conducted its usual tour in the spring of 1942.

#### THE PHILHARMONIC-SYMPHONY

Continuing in its 101st season some of the celebrational aspects of its centennial year, the New York Philharmonic-Symphony began its concerts for 1942-43 in Carnegie Hall on Oct. 7, with Arturo Toscanini conducting. Other conductors who appeared with the orchestra thereafter were Artur Rodzinski, Bruno Walter, Dimitri Mitropoulos, Fritz Reiner, and Howard Barlow, with John Barbirolli and Efrem Kurtz scheduled to appear early in 1943; and with Rudolph Ganz again leading the Young People's Concerts. On Dec. 28 announcement was made by Marshall Field, chairman of the board of directors, that Dr. Rodzinski (for the last ten years regular conductor of the Cleveland Orchestra) had been appointed musical director and conductor for the season 1943-44, thus ending the period of divided leadership. Messrs. Walter and Barlow were engaged also to conduct for short periods in the absence of Dr. Rodzinski.

Eleven conductors and 40 soloists took part in the Philharmonic's Cen-



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ennial season, which was capped with a Beethoven Festival conducted by Toscanini, April 23 to May 3. The orchestra appeared at 119 concerts in the 1941-42 season.

The schedule for Carnegie Hall in 1942-43 followed the familiar pattern of 14 odd Thursday evenings in one series; 14 even Thursday evenings in another; 14 odd Friday afternoons; 14 even Friday afternoons; seven odd and seven even Saturday afternoons; 14 odd and 14 even Sunday afternoons. These made up the usual 28 weeks of subscription concerts. Nine young people's concerts were listed. Aside from an abundance of music by Shostakovich, including repeated performances of the new Seventh Symphony, programs embraced the first complete performance of Berlioz's "Romeo and Juliet" Symphony since the 1880s, led by Mr. Toscanini; the same composer's "Le Damnation de Faust," in concert form, by Dr. Rodzinski; and, for performance in April of 1943, the complete uncut "St. Matthew Passion" of Bach by Mr. Walter.

### NEW ORCHESTRAL WORKS

The new music of symphonic character heard during 1942 continued to be overwhelmingly American. Symphonies played for the first time in New York, Boston, Philadelphia, Chicago, or elsewhere included John Alden Carpenter's No. 2, William Schuman's No. 4, Richard Mohaupt's No. 1, Bernard Hermann's No. 1, Charles Bryan's "White Spiritual" Symphony, Arnold Cornelissen's No. 1, Robert Farnon's No. 1, Alexander Gretchaninoff's No. 4, Dimitri Kabalevsky's No. 2, Nicholas Miaskovsky's No. 21, Arthur Lourié's No. 2 ("Kormitchai"), and Bohuslav Martinu's No. 1, besides the sensational No. 7 of Shostakovich. Aaron Copland's "Statements" and "A Lincoln Portrait," Robert Russell Bennett's Etudes for Orchestra, Samuel Barber's Second Essay for Orchestra, Paul Creston's Chorale, Pastorelle and Tarentella, Morton Gould's "Spirituals," Deems Taylor's "Marco Takes a Walk," Boris Koutzen's "Valley

Forge" and Harl MacDonald's "Bataan" were among other new symphonic works in various forms. Also heard were new piano concertos by Carlos Chavez, Aram Kachaturian, and Stanley Bate; a new violin concerto by Nicolas Lopatinoff; one for viola by Nicolai Berezowsky; and one for voice and orchestra by John Hausserman. Igor Stravinsky's "Danses Concertantes" and Benjamin Britten's "Diversions" for piano and orchestra also should be noted among the many other works introduced.

The New York Music Critics Circle, organized late in 1941, made its first award for new music, as a parallel for the awards bestowed by the drama and film critics. It went to William Schuman's Third Symphony.

### OTHER SYMPHONY CONCERTS

Aside from the Philharmonic-Symphony's centennial season, there were orchestral concerts in New York by the NBC Symphony, the National Orchestral Association, the City Symphony (a series sponsored jointly by Mayor LaGuardia and the Treasury Department), and the visiting Boston Symphony and Philadelphia Orchestra. It was with the NBC Symphony that Arturo Toscanini introduced the Shostakovich Seventh to America before an invited audience on July 19. Among other conductors who appeared with the NBC ensemble in 1942 were Leopold Stokowski, George Szell, Dean Dixon, Alfred Wallenstein, Dr. Frank Black, Juan José Castro, and Francisco Mignone. Mr. Toscanini opened the orchestra's 1942-43 season on Nov. 1.

Under Leon Barzin, the National Orchestral Association continued its concerts as a course of training for young orchestral players and also presented an opera, Mozart's "Abduction from the Seraglio." Admittance to the Treasury concerts given by the City Symphony was by the purchase of war stamps.

### THE NEW OPERA COMPANY

Carrying forward its program in aid of young American singers, the



New Opera Company presented six works in its second season, of which two were operettas, one an American opera produced for the first time, another a new version of a work that had been heard some years ago at the Metropolitan, and two were repetitions of operas sung in the company's first season. The operettas were Johann Strauss's "Rosalinda" ("Fledermaus") and Offenbach's "La Vie Parisienne." The world premiere was of Walter Damrosch's "The Opera Cloak," which was conducted by the composer on Nov. 3. The one other addition to the repertoire was Musorgsky's "Fair at Sorochinsk," in the edition of Emil Cooper, who conducted. The repeated works were Tchaikovsky's "Pique Dame" and Verdi's "Macbeth." Besides Mr. Cooper and Dr. Damrosch, conductors for the New Opera Company included Erich Wolfgang Korngold, Fritz Stiedry, Paul Breisach, and Isaac Van Grove. The company announced a prize for an American opera.

#### SAN CARLO OPERA COMPANY

Of various organizations giving performances of opera in New York, mention must be made of Fortune Gallo's long-established San Carlo Opera Company, which presented a series of standard works at the Center Theatre, May 7-17, besides touring the country from coast to coast and from Texas to Canada.

#### CHICAGO OPERA

With Fortune Gallo continuing also as general manager of the re-organized Chicago Opera Company, and Giovanni Martinelli as artistic director, that organization had a season of five weeks at the Civic Opera House, opening on Nov. 7 and closing on Dec. 12. Seventeen operas were presented, with various repetitions. Eleven were sung in Italian, four in French, one in Polish, and one (Flotow's "Martha") in English. The work in Polish was Moniuszko's "Halka." The operas in Italian were "Aida," which opened the season in substitution for Delibes's "Lakmé,"

"Lucia," "Rigoletto," "La Traviata," "Il Barbiere di Siviglia," "Il Trovatore," "Otello," "Pagliacci," "Cavalleria Rusticana," "La Bohème," and "Tosca." Operas in French were "Carmen," "Faust," "Mignon," and "Manon."

#### PHILADELPHIA OPERA

The Philadelphia Opera Company, of which Sylvan Levine was again the artistic director and chief conductor, visited other cities, including Boston, as well as holding its usual season of performances in the Academy of Music at home. Outstanding among its achievements of the year was the world premiere of Deems Taylor's latest opera, "Ramuntcho," on Feb. 10. Other operas sung in 1942 included "The Marriage of Figaro," "Cosi fan tutte," "Pelléas and Mélisande," "Rosenkavalier" (with a man in the role of Octavian instead of the usual soprano), "Faust" (with a man as Siebel), "The Tales of Hoffmann," "La Bohème," and "The Bat," all in English.

#### CINCINNATI OPERA

Six weeks of summer performances, beginning June 28, carried on the tradition of the Cincinnati Zoo Opera. Among the works presented were "La Traviata," "La Bohème," "Elisir d'Amore," "Manon," "Il Trovatore," "Lucia," "Aida," "Carmen," "Il Barbiere di Siviglia," "Samson et Dalila," "Faust," "Rigoletto," "Mignon," "Hansel and Gretel," and "Pagliacci." This was the institution's twenty-first season.

#### PACIFIC COAST OPERA

Gaetano Merola continued as director-general and conductor of the San Francisco Opera, which gave 11 works in a season of three weeks in the War Memorial Opera House at home, beginning on Oct. 9, and four in another week of opera in Los Angeles, opening on Nov. 2. This was the company's 20th season. Works presented included "La Traviata," "L'Amore dei Tre Re," "Carmen," "The Bartered Bride," "La Fille du Regiment," "Lucia," "Faust," "Il Bar-

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bière di Siviglia," "Un Ballo in Maschera," "Le Coq d'Or," and the operetta "Die Fledermaus."

### CHICAGO SYMPHONY

The death on Oct. 20, 1942 of Frederick Stock, its conductor since 1905, was a heavy blow to the Chicago Symphony at the beginning of its 52d season. The 51st ended under his leadership on April 24 and was followed by a summer season of six weeks at Ravinia. Dr. Stock was again in his usual place when the orchestra returned for the new span of concerts in Orchestra Hall. He conducted those of Oct. 15-16. His death intervening before the pair of Oct. 22-23, these were led by Hans Lange who was then entering upon his seventh season as associate conductor. Mr. Lange assumed the chief burdens of the concerts thereafter. The orchestra's schedule remained unchanged. It called for approximately 100 concerts in Orchestra Hall, 28 on Thursday evenings, 28 on Friday afternoons, 12 on Tuesday afternoons, two series for Young People, a Saturday evening popular series, and the usual series in Milwaukee. The appointment of a successor for Dr. Stock, who had begun his 38th season as leader of the ensemble that he joined as a player in 1895, was left for determination in 1943. The Chicago Symphony has had but two regular conductors in the half century of its existence: Theodore Thomas and Frederick Stock.

### BOSTON SYMPHONY

Of vital interest not only to its own players and supporters but to those of other orchestras throughout the country and to a considerable part of the musical public, was the final unionization of the Boston Symphony at the beginning of the new season of 1942-43, the 62nd of its history. Clinging to its old independence throughout the years that followed the death in 1919 of its founder, Col. Henry Lee Higginson who had determined its non-union policy, it had come to be the only ma-

jor orchestra in America that had no ties with the American Federation of Musicians. This policy had led to its virtual exclusion from broadcasting and in the last few years from recording. The aggressive policy of James Caesar Petrillo, president of the musicians' union, led to a more acute situation, and an agreement finally was reached in October for unionization of the players. Broadcasting by the orchestra was then scheduled for resumption.

Serge Koussevitzky remained as conductor, the post he has held exclusively since 1924, with only an occasional "guest" to relieve him in his arduous duties. The 1941-42 home season ended in Symphony Hall, Boston, on May 2. The last New York concert of that season was given on April 24. Beginning in May, Arthur Fiedler conducted the usual "Pops," which continued through June and into July. Dr. Koussevitzky was forced to forego the use of the orchestra at the summer festival in the Berkshires, which was given a different form under his personal sponsorship. He was again on the podium when the 1942-43 season opened in Symphony Hall on Oct. 9.

The home schedule called for 60 concerts, as follows: 24 on Friday afternoons, 24 on Saturday afternoons, six on Monday evenings, six on Tuesday afternoons. For the first time in its history the orchestra issued an appeal for financial assistance, taking the public into its confidence with a detailed statement of revenues and expenses.

The orchestra began its annual series of ten concerts in New York—the 57th such series—on Nov. 19. It continued its Brooklyn series and played dates in other cities, as in the past, though transportation problems were expected to limit the out-of-town engagements.

### PHILADELPHIA ORCHESTRA

The Philadelphia Orchestra made its usual tour at the end of the 1941-42 season, which was the orchestra's 42d. An announcement at the beginning of the 1942-43 season fore-

cast a curtailment of that season's touring because of travel difficulties. The New York series of ten concerts was, however, continued. Eugene Ormandy conducted the first concert of the new home season in the Academy of Music on Oct. 2, and the first of the series scheduled for Carnegie Hall, New York, on Oct. 13. The home schedule called for 66 concerts, with 28 on Fridays, 28 on Saturdays, and ten on Mondays. In addition to Mr. Ormandy, who was listed for the majority of the concerts, Arturo Toscanini was engaged for two pairs of concerts and Wilhelm Steinberg for three concerts. One pair of concerts was assigned to Saul Caston, associate conductor of the orchestra. Five concerts for youth and three for children, all but one under Mr. Ormandy's direction, also were scheduled. The orchestra participated in a Brahms Festival, lasting ten days, which was given in Philadelphia at the end of February and the beginning of March. It again played at the Ann Arbor May Festival.

#### CLEVELAND, CINCINNATI, AND ST. LOUIS

The appointment of Dr. Artur Rodzinski as musical director and conductor of the New York Philharmonic-Symphony for the season 1943-44 did not affect the 1942-43 season of the Cleveland Orchestra, which observed its Silver Anniversary. Rudolph Ringwall was again associate conductor. The 1941-42 span ended on April 18, and the new season began on Oct 8 in Severance Hall with Dr. Rodzinski conducting. As the orchestra has had but two conductors in its lifetime, the return of Nikolai Sokoloff as guest conductor for concerts on Dec. 10 and 11 was a red-letter event of the celebrational year. Dr. Sokoloff was the conductor of the orchestra's first concerts in 1918 and continued as its leader throughout its first 18 years. Thirty members of the playing personnel in 1942 had been with the ensemble when Dr. Sokoloff was its regular conductor and two had retained their posts from the orchestra's first concert.

Eugene Goossens, who returned to conducting the Cincinnati Symphony in its 48th season, as he has done since 1931, gave a war note to his programs of the final weeks of 1942 by including the national anthem of some one of the United Nations at each of his performances. The old season of 1941-42 ended on May 25. The new one of 1942-43 began in historic Music Hall on Oct. 9. The schedule of concerts called for 20 pairs, on Friday afternoons and Saturday evenings, or a total of 40; plus five Young People's Concerts, four College Symphonic Concerts, four appearances with the Ballet Theater, and nine out-of-town engagements.

The new season which opened in the Municipal Auditorium on Nov. 6, with Vladimir Golschmann conducting, was the 63d for the St. Louis Symphony. Mr. Golschmann then began his twelfth year with the orchestra. The season's program called for 18 concerts on Friday afternoons and 18 on Saturday nights, a total of 36; and six students concerts on Thursday afternoons.

#### NATIONAL SYMPHONY

The National Symphony, conducted by Hans Kindler, ended its 1941-42 home season on March 30. Before the opening of the new season an agreement had been reached with the musicians' union for a winter program of 20 weeks and one of six weeks for the summer. Mr. Kindler, who has conducted the National Symphony since its inception in 1931, inaugurated the 1942-43 season on Nov. 8, and the orchestra resumed its Baltimore visits on Nov. 12. The schedule included midweek and Sunday concerts, a children's series and various student concerts (in the schools) as in the past.

#### MINNEAPOLIS

Entering upon its 40th year, the Minneapolis Symphony gave the opening concert of its 1942-43 season in Northrup Auditorium on the University of Minnesota campus on Oct. 24. Eighteen evening concerts of the University Subscription Series were

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scheduled for Friday evenings, with the exception of the first and the tenth, which were listed for Saturdays. There were also seven Twilight Concerts for late Sunday afternoons, three Concerts for Young People, and five "Special Feature" appearances. Dimitri Mitropoulos was the orchestra's conductor for the sixth successive year.

### PITTSBURGH AND INDIANAPOLIS

Conducted by Fritz Reiner, the Pittsburgh Symphony opened its 1942-43 season in Syria Mosque on Oct. 23. The schedule provided for 16 pairs of concerts as in the season of 1941-42.

The sixth season of the Indianapolis Symphony was opened with a concert in the Murat Theater on Nov. 7, with Fabien Sevitzky in his accustomed place as conductor. Ten pairs of subscription concerts, given on Saturday nights and Sunday afternoons, were supplemented by five Popular Concerts on Thursday evenings, two Young Peoples Concerts, four Children's Concerts in the schools, a series of Industrial Concerts (sponsored by Indianapolis firms for their employees), one special concert, and a series of out-of-town events.

### ROCHESTER

In the absence of José Iturbi, Guy Fraser Harrison conducted the Rochester Philharmonic at its opening concert of the 1942-43 season, given at the Eastman Theater on Nov. 5. Mr. Iturbi took over the leadership of the orchestra at the concert of Dec. 3. This was his seventh season as its conductor. The Rochester Civic Orchestra, led by Mr. Harrison, also began its concerts in November. The two orchestras participated in the annual American Music Festival, April 27-May 1, when six programs were presented, four in the Eastman Theater and two in Kilburn Hall. In celebration of the 20th anniversary of the Eastman School of Music, all of the compositions presented at this festival were by faculty members and graduates of the school. Howard Hanson, director of the school and

again the leading spirit of the festival, participated as one of the conductors.

### BALTIMORE

With the intent of placing it among first-rank orchestras, the Baltimore Symphony was reorganized for the season of 1942-43. With Robert E. Lee Taylor as president of the new association, Reginald Stewart was engaged as conductor and C. C. Cappel as manager. An ensemble of 95 players was brought together and a season of 20 weeks, to include 14 evening concerts and 12 "Pops" was arranged. Mr. Stewart conducted the opening concert at the Lyric Theater on Nov. 19. He was also engaged as director of the Peabody Conservatory.

### KANSAS CITY AND DENVER

With Karl Krueger continuing in the post of leadership he has occupied since 1933, the Kansas City Symphony inaugurated its tenth season in Music Hall of the Municipal Auditorium on Oct. 20. As a solution of the difficulties of a war year and as a further step in spreading cultural benefits, the new schedule of concerts was divided between Kansas City and Wichita. The Wichita concerts began on Nov. 5.

The Denver Civic Symphony, conducted by Horace E. Tureman, opened its 1942-43 season of subscription concerts on Oct. 29 at the City Auditorium.

### HARRISBURG AND LOUISVILLE

The Harrisburg Symphony, conducted by George King Raudenbush, began its 1942-43 season in the Forum on Oct. 20.

The Louisville Philharmonic, conducted by Ole Windingstad, opened its new season of concerts on Nov. 10.

### LOS ANGELES

The Los Angeles Philharmonic closed its 1941-42 season on April 11. On Nov. 19 it began formally the new season of 1942-43 with the first subscription concert, though the orches-



tra had given a program on Nov. 15 at the Hollywood High School. The Children's Concerts began on Nov. 21. John Barbirolli was the conductor of these concerts. The Southern California Symphony Association entered upon its ninth season as sponsor for the orchestra, which was scheduled to give 12 pairs of Thursday-Friday concerts, plus the children's series and various other concerts in southern California cities.

#### SAN FRANCISCO

The San Francisco Symphony, which ended its 1941-42 season in mid-April, returned to the War Memorial Opera House for the beginning of the new season of 1942-43 on Dec. 4. This was the orchestra's 31st season. Pierre Monteux was again the conductor. Leopold Stokowski was engaged to appear as guest leader. The usual 12 pairs of subscription concerts were scheduled for the season.

#### SEATTLE

The Seattle Symphony's 1942-43 season began on Oct. 5 with Sir Thomas Beecham conducting. Edwin MacArthur and John Barbirolli were other conductors of the year. In February and March the orchestra participated in a Pacific Northwest Mozart Festival, held in Seattle and other cities. The orchestra's regular series of eight events was held in Music Hall.

#### SUMMER CONCERTS

As in recent years, July and August were filled with summer symphony concerts, most of which were held outdoors. Though the Boston Symphony did not present the usual programs of the Berkshire Festival, the New York Philharmonic-Symphony appeared in the Lewisohn Stadium, where the Stadium concerts celebrated their 25th anniversary; the Philadelphia Orchestra played in Robin Hood Dell; the Los Angeles Philharmonic in Hollywood Bowl; the Chicago Symphony in Ravinia and Grant Parks; and the National Symphony appeared at the Potomac Watergate concerts—to name only a

half dozen of the various summer series which enlisted most of the more important orchestras of the country. There was another season of symphony and opera performances at Chautauqua, with Albert Stoessel conducting the symphony concerts in the Amphitheater, and sharing with Alberto Bimboni and Gregory Ashman the leadership of the operas, for which Alfredo Valenti again was stage director.

#### MISCELLANEOUS MUSICAL EVENTS

The nineteenth annual Festival of the International Society for Contemporary Music was held in Berkeley, under the auspices of the University of California, Aug. 1-9. Thirty-four composers of 13 nations were represented on the programs. Seven were native Americans. The eight concerts of the festival were devoted to works composed in the last five years.

The National Federation of Music Clubs decided to postpone its twenty-third biennial convention because of war conditions. Its Young Artists Contests were continued, however, under a plan by which the finals would be broadcast from New York.

The Music Educators National Conference was held in Milwaukee, March 27-April 2. "American Unity Through Music" was the theme of the Conference, together with "Music in the National Effort," as developed since Pearl Harbor. Lilla Belle Pitts was elected president in succession to Fowler Smith.

The League of Composers celebrated its 20th birthday with two concerts in New York, the first on Dec. 9 in Town Hall, the second on Dec. 27 in the Museum of Modern Art, at both of which programs of works composed especially in the League's honor were presented. The composers of these works were Walter Piston, Aaron Copland, Darius Milhaud, Frederick Jacobi, Bohuslav Martinu, Louis Gruenberg, Virgil Thomson, Douglas Moore, Lazare Saminsky, Bernard Wagenaar, Arthur Shepherd, and Roy Harris.

## THE THEATRE

### THE THEATRE

BY KARL SCHRIFTGIESSER

DRAMA DEPARTMENT, *The New York Times*

#### WAR AND THE STAGE

Strangely enough the first year of the war, as far as the United States was belligerently concerned, had less effect upon the American stage than might have been expected. Its people, through such organizations as Actors' Equity and the American Theatre Wing War Service, responded with customary patriotism and generosity. In New York, and later in other cities, the Theatre Wing opened what it called the Stage Door Canteen, a gathering place for service men (non-commissioned) of all the United Nations. Each night, actors, actresses, press agents, managers, etc. gave their services free in entertainment and in other ways. Food as well as entertainment was provided, and thousands of sailors and soldiers gathered in these canteens to spend their off-hours. Equity, the theatrical union, quickly established a good record of the number of its members who had become fighting men. Through USO-Camp Shows, Inc., a wide variety of entertainment was sent to camps in continental United States and overseas. Headliners put in long hours selling war bonds. Specially prepared shows were sent to camps, which also saw many New York companies bring their entire cast, and sometimes scenery, to the encampments all over the country.

#### WAR AND RELATED THEMES

While much time and energy was thus expended by the theatre the war, strangely enough, had little effect upon the dramatists in their own literary work for the theatre; that is, reflections of the war were slow to show up in plays. The first serious play by an American about the war was John Steinbeck's three-act "The Moon Is Down." This dealt not with American war aims or ambitions, but with the invasion of Norway.

Although well constructed and dramatic, in a quiet way, it was not a New York success. Nothing else of moment came along until Maxwell Anderson wrote "The Eve of St. Mark" for the American Theatre Conference. The Playwrights' Company produced it in New York. Lem Ward, who died soon thereafter—thus robbing the theatre of one of its most brilliant young directors—directed the simple story of a farm boy's progress from school to army camp to a Pacific island under fire by the Japs. Not considered Maxwell Anderson's best work by most critics, it nevertheless caught on, its very moving simplicity, earthy humor, and integrity being its great assets.

With the minor exception of "Yankee Point" by Gladys Hurlbut, a play about spies and plane spotters on Long Island, no other American play directly inspired by the war was forthcoming. Great Britain, however, sent over some that had been of varying success in London. None got into the American consciousness.

The dearth of good plays about the war occasioned much critical comment, however; and, of course, references to it crept into other plays, particularly comedies such as "Janie" by Josephine Bentham and Herschel Williams, a minor but popular affair about young love near an Army camp.

The theatrical year, as a whole, was as dull as most critics could remember, at least until the autumn was well under way. Then the Theatre Guild brought in "Without Love" by Philip Barry, starring Katharine Hepburn and Elliott Nugent. This had war as a theme, a minor theme—Ireland's neutral reaction to the war. As a play it was of little consequence except as a vehicle for a popular star. S. N. Behrman ducked the war entirely in the play he wrote for Alfred

Lunt and Lynn Fontanne, which the Playwrights' Company brought along in late November. He called his old-fashioned love story "The Pirate." It was a good medium of escape. John Van Druten and Lloyd Morris offered a comedy of manners, time, 1909, place, New York, in "The Damask Cheek," which starred the English actress, Flora Robson. Howard Lindsay and Russel Crouse concocted a semi-musical comedy about a burlesque troupe inveigled into playing an unauthorized performance at an army camp.

#### "THE SKIN OF OUR TEETH"

Unquestionably the outstanding contribution to the stage in 1942 was Thornton Wilder's "The Skin of Our Teeth." Certainly no play was more controversially received. Based, probably, on James Joyce's last work, "Finnegans Wake," it attempted, with colossal humor, to tell the story of the entire human race in three acts. It dealt with war and love, the ice age, suburbia, and many other things, in a grand concoction of merriment and philosophy. Most who saw it either liked it or hated it. Many critics frankly said, with Talullah Bankhead (in her asides in the script), that they didn't understand a word of it. At least 34 persons who had a chance to help produce or finance it turned it down for the same reason. Michael Myerberg produced it, and it was a hit overnight. In its cast are dinosaurs, a gypsy, a strumpet, a suburban couple, their children, philosophers, fools. It showed how the ice age came to Excelsior, N. J., was followed by war, from both of which Mr. and Mrs. Antrobus (Frederic March and Florence Eldridge) and the eternal strumpet (Talullah Bankhead) and the other characters escaped by the skin of their teeth.

#### "THIS IS THE ARMY"

The most successful single producer of the year was the United States Army. The show which it put on for phenomenal grosses was "This Is The Army" and Irving Berlin was the author. In twelve weeks in New York

it showed a profit of \$780,863.93. The biggest item in this sum was \$250,000 received for moving picture rights. The rest came from sales of records, sheet music, etc., and from an average of \$48,000 taken in weekly at the Broadway Theatre box office. All the profits went to the Army Emergency Relief Fund. The show, with an all-soldier cast, opened on July 4. It might well have run in New York alone for a year, or even longer. The Army wisely decided it should be seen throughout the country. By the year's end it had been seen in Washington, Pittsburgh, Philadelphia, Baltimore, Boston, Cleveland, Cincinnati, St. Louis. Every actor or other worker in the production was an enlisted man, many well known on Broadway. There was no outside or civilian help, except in such matters as publicity, in which instances, services were given free. It had many good songs and acts, all done with a professional touch. When the soldiers were not acting they had to drill, like other soldiers. It made money and won critical acclaim everywhere. All commentators compared it more than favorably with Mr. Berlin's First World War show, "Yip, Yip, Yaphank."

#### REVIVALS

The year included several revivals: the Theatre Guild's romping production of "The Rivals" in which Bobby Clark, the music hall zany, captivated all; "Porgy and Bess," which ran for 285 Broadway performances; "Nathan the Wise," as "freely adapted" by Ferdinand Bruckner and well done by the Studio Theatre, although not a success when it moved to Broadway; "Candida," with Katharine Cornell, Dudley Digges, Private Burgess Meredith, and Mildred Natwick, all done out of the kindness of Miss Cornell's heart for Army and Navy Relief; "Native Son," with Canada Lee in the part he originated in the Negro melodrama; "Counselor-at-Law," with Paul Muni in the part he originated; and "The Three Sisters" with Miss Cornell, Judith Anderson, and Gertrude Musgrove enacting the sisters

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in the famous Chekhov drama. Others, all of which had brief runs, were: "Hedda Gabler," "A Kiss For Cinderella," with Luise Rainer, "All the Comforts of Home," "Three Men on a Horse," "Bird in Hand," and "Magic."

### OPERETTA REVIVALS

During the summer there were revivals, at popular prices, in Carnegie Hall, of several once-popular operettas: "The Chocolate Soldier," "The New Moon," and "The Merry Widow." During the winter the Boston Comic Light Opera Company brought Gilbert and Sullivan. In Greenwich Village the Savoy Opera Guild and the Light Opera Theatre continued their successful week-end performances of these operettas.

### MUSICALS

Although wars are supposed to bring a demand for musical comedies, new ones were few and far between on Broadway, and those good enough to linger any length of time can be briefly noted. The first of any importance was "By Jupiter," which gave that excellent dancer, Ray Bolger, a chance to do his specialties, and afforded Lorenz Hart and Richard Rodgers an outlet for words and music which, if not up to their usual standard, were by no means dull. The musical was based on the play "The Warrior's Husband" by Julian F. Thompson. Its Amazonian theme was delicately and tastefully handled. Another to have a long run was "Star and Garter," which was nothing but carriage-trade burlesque offered at top Broadway prices, with the strip-teaser Gypsy Rose Lee and Bobby Clark, late of the Theatre Guild, the main attractions. "Show Time," with George Jessel and Jack Haley starred, although more in the category of vaudeville, received critical acclaim that surprised Mr. Jessel. Another surprise was "Rosalinda," a revised version of "Der Fledermaus." These were the most popular Broadway shows of the year, although there were several holdovers from 1941 still going strong as 1942 ended.

### VARIETY

Vaudeville, long dormant, was revived during the year, mainly by Clifford Fischer and the Shuberts. A great fanfare followed in the press. First was "Priorities of 1942." Among those who returned to the boards in this medium during the year were Lou Holtz, Ed Wynn (who had his own show, "Laugh, Town, Laugh") and George Jessel. Several such shows were offered, not all with success. Vaudeville, as an art, did not exactly "come back."

### MYSTERIES

The only new mystery play of substance was "Uncle Harry" by Thomas Job. Its plot is about a man who committed a perfect crime for which another was punished by death. Joseph Schildkraut and Eva Le Gallienne lifted it from the commonplace. It opened in May and was still running at the year's close.

### MISCELLANEOUS SHOWS

During the year the following shows were offered with varying success: "Cafe Crown" by H. S. Crofts, a pleasantry about a New York Jewish cafe; "Lily of the Valley" by Ben Hecht, which lasted eight performances; "Solitaire" by John Van Druten; "Heart of a City" by Leslie Storm; "Guest in the House" by Hagar Wilde and Dale Eunson; "Yesterday's Magic" by Emlyn Williams; "The Strings, My Lord, Are False" by Paul Vincent Carroll; and "Jason" by Samson Raphaelson. The last-named, a play about a drama critic, ran for 125 performances.

### CENSORSHIP

Stage censorship reared its head in New York in November. Mayor La Guardia, Archbishop Spellman, and others urged the stage be "cleaned up." The producers of a "burlesque" show were arrested, two were given suspended sentences, and one was jailed for six months. The show in question was called "Wine, Women and Song." It was in a Broadway house. Earlier in the year License Commissioner Moss had refused re-



## XXVI. THE ARTS

newal of licenses to several burlesque theatres, and this type of entertainment pretty well disappeared. It reappeared on Broadway, at higher prices, and ran up against the objections of several organizations. As usual the League of New York Theatres and Equity held meetings. When Lee Shubert decided to close the revival of "Native Son," which he did not produce but which was in one of the theatres under his control, the

reaction was felt. So strong were the protests that the play was continued, although it was losing money, at the request of the League which felt it could not stand by and see indirect censorship get a hold in New York. This play had been listed as "wholly objectionable" by the Catholic Theatre Movement. Other shows and plays so listed were unaffected, with the exception of "Wine, Women and Song."

### PERIODICAL PUBLICATIONS

*American Architect*  
572 Madison Ave., New York City.  
*American Cinematographer*  
1782 North Orange Drive, Hollywood, Calif.  
*American Home (The)*  
444 Madison Ave., New York City.  
*American Journal of Archaeology*  
Archaeological Institute of America, Columbia University, New York City.  
*American Magazine of Art*  
American Federation of Arts, Washington, D. C.  
*Antiques Magazine*  
40 East 49th Street, New York City.  
*Architectural Forum*  
20 W. 45th Street, New York City.  
*Architectural Record*  
119 West 40th Street, New York City.  
*Architecture*  
497 Fifth Ave., New York City.  
*Art Digest*  
116 East 59th Street, New York City.  
*Art News*  
136 East 57th Street, New York City.  
*Arts and Decoration-Spur*  
116 East 16th Street, New York City.  
*Billboard (The)*  
1564 Broadway, New York City.  
*Design*  
20 South Third Street, Columbus, O.

*Equity*  
45 W. 47th St., New York City.  
*Etude*  
1712 Chestnut Street, Philadelphia.  
*House and Garden*  
Greenwich, Conn.  
*Modern Music*  
113 West 57th Street, New York City.  
*Motion Picture Herald*  
Rockefeller Center, New York City.  
*Museum News*  
Smithsonian Institution, Washington, D. C.  
*Musical Courier*  
119 West 57th Street, New York City.  
*Musical Digest*  
119 West 57th Street, New York City.  
*Musician (The)*  
14 E. 47th Street, New York City.  
*Octagon (The)*  
Elmira College, Elmira, New York.  
*Parnassus*  
625 Madison Street, New York City.  
*Prints*  
1819 Broadway, New York City.  
*Professional Art Quarterly*  
18 East 48th Street, New York City.  
*Theatre Arts Monthly*  
40 East 49th Street, New York City.  
*Variety*  
154 West 46th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

#### GENERAL

ACADEMY OF MOTION PICTURE ARTS AND SCIENCES, Taft Bldg., Hollywood, Calif.  
AMERICAN ACADEMY OF ARTS AND LETTERS, 633 W. 155th St., New York City.  
AMERICAN ACADEMY OF ARTS AND SCIENCES, 28 Newbury St., Boston, Mass.  
AMERICAN ACADEMY IN ROME, 101 Park Ave., New York City.  
AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, Ohio.  
AMERICAN FEDERATION OF ARTS, THE, Barr Bldg., Farragut Sq., Washington, D. C.  
AMERICAN FINE ARTS SOCIETY, 215 W. 57th St., New York City.  
AMERICAN INSTITUTE OF ARCHITECTS, 115 E. 40th St., New York City.  
AMERICAN NUMISMATIC SOCIETY, 156th St. and Broadway, New York City.  
AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY, 287 Convent Ave., New York City.  
ARCHAEOLOGICAL INSTITUTE OF AMERICA, Columbia University, New York City.  
ARCHITECTURAL LEAGUE OF NEW YORK, 115 E. 40th St., New York City.  
ARTISTS GUILD, 369 Lexington Ave., New York City.  
FINE ARTS FEDERATION OF NEW YORK, 115 W. 40th St., New York City.  
GRAPHIC ARTS BOARD OF TRADE, 136 Liberty St., New York City.  
HISPANIC SOCIETY OF AMERICA, THE, 155th St., West of Broadway, New York City.  
MUNICIPAL ART SOCIETY OF NEW YORK, 119 E. 19th St., New York City.  
NATIONAL ACADEMY OF DESIGN, 175 W. 109th St., New York City.  
NATIONAL ALLIANCE OF ART & INDUSTRY, 119 E. 19th St., New York City.  
NATIONAL ASSN. OF WOMEN ARTISTS, 42 W. 57th St., New York City.

NATIONAL INSTITUTE OF ARTS AND LETTERS, 633 W. 155th St., New York City.  
NATIONAL SCULPTURE SOCIETY, 115 E. 40th St., New York City.  
NEW YORK SOCIETY OF ARCHITECTS, 101 Park Ave., New York City.  
SOCIETY FOR AMERICAN ARCHAEOLOGY, 10 Frisbie Street, Cambridge, Mass.  
SOCIETY OF ILLUSTRATIONS, 334½ W. 24th St., New York City.  
SOCIETY OF INDEPENDENT ARTISTS, 19 Bethune St., New York City.

#### DRAMA

ACTORS EQUITY ASSN., 45 W. 47th St., New York City.  
ACTORS FUND OF AMERICA, 1619 Broadway, New York City.  
DRAMATISTS' GUILD, 6 East 39th St., New York City.  
ENGLISH FOLK DANCE AND SONG SOCIETY OF AMERICA, 15 E. 40th St., New York City.  
EPISCOPAL ACTORS GUILD, 1 E. 29th St., New York City.  
INDEPENDENT THEATRE OWNERS ASSN., Hotel Astor, New York City.  
INTERNATIONAL ALLIANCE OF THEATRICAL STAGE EMPLOYEES AND MOVING PICTURE MACHINE OPERATORS OF THE UNITED STATES AND CANADA, 630 Fifth Ave., New York City.  
INTERNATIONAL THEATRICAL PLAY BUREAU, RCA Bldg., New York City.  
LEAGUE OF NEW YORK THEATRE, 234 W. 44th St., New York City.  
MOTION PICTURE PRODUCERS AND DISTRIBUTORS OF AMERICA, INC., 28 W. 44th St., New York City.  
MOTION PICTURE PRODUCERS ASSN., Hollywood, Calif.  
MOTION PICTURE THEATRE OWNERS OF AMERICA, 1600 Broadway, New York City.  
MUSEUM OF THE CITY OF NEW YORK, Theatre Div., Fifth Ave. and 104th St., New York City.

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NEW YORK PUBLIC LIBRARY, Theatre Div., Fifth Ave. and 42d St., New York City.

SCREEN ACTORS GUILD, Hollywood Boulevard, Hollywood, Calif.

THEATRE AUTHORITY, INC., 545 Fifth Ave., New York City.

THEATRE GUILD, INC., 245 W. 52nd St., New York City.

### MUSIC

AMERICAN FEDERATION OF MUSICIANS, 1450 Broadway, New York City.

AMERICAN GUILD OF MUSICAL ARTISTS, INC., 2 W. 45th St., New York City.

AMERICAN GUILD OF ORGANISTS, 630 Fifth Ave., New York City.

AMERICAN SOCIETY OF COMPOSERS, AUTHORS, AND PUBLISHERS, 30 Rockefeller Plaza, New York City.

CANTORS REGISTRY, 36 E. 7th Street, New York City.

GRAND OPERA GUILD, 250 W. 57th St., New York City.

NATIONAL BUREAU FOR THE ADVANCEMENT OF MUSIC, INC., 45 W. 45th St., New York City.

NATIONAL MUSIC LEAGUE, 299 Broadway, New York City.

ORATORIO SOCIETY OF NEW YORK, 113 W. 57th St., New York City.

PHILHARMONIC SYMPHONY SOCIETY OF NEW YORK, 113 W. 57th St., New York City.

## DIVISION XXVII

### EDUCATION

#### ELEMENTARY EDUCATION

BY WILMA LESLIE GARNETT

ASSOCIATE PROFESSOR, KENT STATE UNIVERSITY

##### COOPERATION WITH GOVERNMENT

A fascinating phase of studying education at any time is that of discovering the themes for the programs set up. The central theme today is especially interesting, being that which may be characterized by the words of Dean William Russell of Columbia University: The schools must "play ball with the Government."

That statement already has practical significance on the college and university levels. It means meeting the war emergency there. On the elementary level, the applications of the theme are of grave importance, too. They are of greater significance there than they have been on the upper levels because "playing ball with the Government" on the elementary level means getting the children of 1941-1942 ready to carry civilization forward after the war. A strong people must be developed to take the position of leadership demanded by a period of reconstruction which is the natural consequence of war. It will require disciplined people, those who have come to know and accept the austerities of life, to direct world destinies. Healthy people of sound minds must be girded for their heavy burdens. The main theme for American elementary education is, then, "play ball with the Government" and prepare the elementary school children through education to take the position of leadership which will in-

evitably be given them in the task of preserving that worth perpetuating out of the cultural heritage, and in the forward-looking work of opening the way for new and better conditions of living in the post-war period.

President Roosevelt has expressed the theme thus: "... America will always need men and women with college training. Government and industry alike need skilled technicians today. Later we shall need men and women of broad understanding and special aptitudes to serve as leaders of the generation that must manage the post-War world."

##### WAR AND PEACE REORGANIZATION

With all-out work for war and for the coming peace, the work of the colleges and universities is being reorganized with amazing speed and with astonishing new emphases. This reorganization is now reaching down to the high-school and junior high-school levels. It will be felt in the elementary school soon. The technical preparation—the vocational call—will not come directly to the elementary school; but the ground work for such calls and the cultural background necessary for those who are to lead in the period of post-war reconstruction will be asked for. Pressure for changes in higher levels is permeating quickly to the elementary and primary schools. New demands are already being made upon those schools in the two directions of direct



aid in war work and thorough and disciplined education in essentials. For example, Dr. J. W. Studebaker has called upon the elementary schools, teachers and children, to assist in wartime salvage campaigns, in conservation programs, and in rationing work. In regard to the immediate changes in the teaching program, he has urged the improvement of the health education program, with special emphasis upon education in nutrition. He has further urged that attention be given to the promotion of sound morale and to the study of war and peace plans. It is evident that educational leaders are looking to the American elementary-school children for post-war leadership. Those American children are the most important children in the world today. They must have the best that education can offer. Myrtle Hooper Dahl, president of the National Education Association (1942), has said that the most patriotic duty of teachers is to "maintain undiminished for every child his American birthright of an education which will fit him for alert, active citizenship in the kind of government we have pledged our all to preserve."

Even today (October, 1942), as this report is written, in regard to the European situation as affected by malnutrition, figures appear and give to the world Nature's word that the leaders in the post-war period will have to be the American elementary-school children. Under-fed, under-educated, the same generations all over Europe and Asia will not be equal to the burdens. Guidance from the American elementary-school children of today will be an imperative for which the schools must give the preparation. More than ever before, the schools will have to give health and moral guidance, for parents will be actively engaged in war work. These children must be taught to guide tolerantly until a new generation in each country can assume its rôle in a world of nations at peace. There are, then, two fronts for the American people to keep up: the War Front and the Education Front.

### EDUCATIONAL CHANGES

As a result of the world cataclysm, the school year 1941-42 marked the turning point from an old order to a new in the education of the elementary child. Emergent educational changes may be described by statements gathered from educational reports, magazines, and newspaper articles:

Americans should take stock of the school work being offered and should, after carefully evaluating the work, eliminate the unessential and outmoded.

It is possible to cut down on the time devoted to elementary education and still cover all that has been included in the usual curriculum. In other words, the slack can be taken up by wise planning.

Arithmetic and other tool subjects should be taught by teachers to the point of mastery.

There should be effective initial teaching in order to eliminate waste by useless repetition.

The teaching of all phases of the language arts should be perfected. All normal Americans should be taught to read, speak, and write to at least the degree of effectiveness attained by the average fourth-grade child. (Selective Service examinations have revealed that about 11,000,000 Americans are illiterate.)

More training in speech is needed. Nursery, school and kindergarten programs should be included in most school programs.

There should be special attention given to making program adaptations favorable to exceptional children (gifted and handicapped).

Health and physical education need more attention, especially education in nutrition that will be functional from first grade on.

Geography, history, civics, and ethics should have their places in the elementary program.

Immediate attention must be given

## ELEMENTARY EDUCATION

to the teaching of air-mindedness and to the building of morale.

The elementary schools should contribute to adult education, as well as to child education.

Dr. Edward S. Evenden has said that more support must be found for a kind of public education that will eliminate the unnecessary and long outmoded, that will advance kindergarten and nursery-school education, that will recognize the fact that teachers can build morale of a people, that will provide curricular materials for promoting an understanding of the American way of life. Summed up, these gleanings seem to indicate that educators are evaluating elementary education and are planning a forthright attack upon the problems involved in choosing appropriate work and in applying time-saving methods to the presentation of that work.

All these changes are made difficult by reason of current teacher shortages, resulting in lowered standards of certification. A shortage of some 100,000 teachers (out of the usual million positions) is anticipated within the year. This problem and many others will have to be met in such expeditious ways as can be found.

### LEGISLATION

Certain of the changes demanded by the trends cited will have to be provided for through legislation. The most important bill for education now receiving consideration is the Senate Bill (S.1313) calling for a \$300,000,000 appropriation by the Federal Government for the elementary and high-school programs. This bill, if passed, would make it possible for many schools to meet the educational emergency which will be felt keenly in a financial way within the next few years. Equalization of educational opportunity could be assured to some extent by the appropriation asked.

The passage of the Federal bill will not lift the financial responsibility from the states. States and local communities are urged to utilize

the property tax as a source of school income. Legislative enactments by states are already being made to provide for more kindergarten and nursery school education; to give more money for free textbooks; to offer aid to school libraries, to open the doors of elementary, as well as high schools, for adult education classes; and to give increases in salaries to teachers in an effort to offset shortages. The utilization of the property tax locally, supplemented by Federal money, will be necessary to maintain high standards in the elementary program of the future.

### ILLITERACY

Note should be taken of the figures on illiteracy brought to light by the results of Selective Service examining. To the surprise of the public, it has been found that there were about 433,000 men too illiterate to be taken into the Army, Navy, or Marines. These men need elementary education to make it possible for them to come up to a fourth-grade level in reading instructions, following directions, setting a sight, and writing simple facts. Such results of the testing program administered have created a demand for an "extra" elementary-school program—adult classes in elementary language arts for men otherwise eligible for service in the armed forces. Too, it has been impressed upon the minds of all those who know about the results, the necessity of providing an effective program of instruction in the language arts at the elementary-school level. An effective program would make impossible a recurrence of such wide-spread lack of proficiency. With 11,000,000 illiterates in our country something should be done to redistribute the educational opportunity.

### STATISTICAL FACTORS

There are about 30,000,000 young people in the United States taught by about 1,000,000 teachers. This body makes up the largest single unit of institutional activity in the country. It is also the most significant and potentially the most powerful.

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Supplementary to the statistical reports included in the 1941 review of "Elementary Education" for THE AMERICAN YEAR BOOK, the following points are of interest:

Population growth predicted for the United States by 1980 will include an increase by about 20,000,000; at the same time, a decline of youth population under 20 years of age by 4,000,000 to 6,000,000 is predicted.

It is predicted that the coming years will witness greater mobility of population than this country has known to date. Migration from city to city is greater than from country to city. Seasonal migration is growing in importance. There is a concentration of defense migration toward relatively few communities.

Figures on unemployment given in 1940 are out-of-date now, being of historical interest only. It is impossible to predict futures in employment. In 1940, more of our workers were found in agriculture; manufacturing; trade, distribution, finance; and service industries than in others.

About 20 per cent of the total population is in school—30,000,000 children. About 70 per cent of the persons between five and 25 years of age are in school. There are over 22,000,000 of the school population attending the elementary schools. Public evening and adult school classes enrolled 1,380,000 pupils in 1938. WPA sponsored educational work for 1,500,000 adults and about 50,000 small children in nursery schools.

Elementary school populations have decreased in proportion to high-school enrollments during the past ten years.\*

Bearing in mind the figures on general illiteracy already given as re-

ported by Selective Service, one has some idea in regard to what the United States must provide in the way of educational opportunity for future leadership. Schools must go on for over 22,000,000 children; adult education must be made available for many of the parents of these children; teacher-education is an essential phase of the program, one to be carried on at the secondary, college, and university levels. The basic education program for the future includes these phases of work on the Education Front, as well as the emergency war program and illiteracy counter-attack as carried on in the upper levels of education.

### FINANCIAL PROBLEMS

Such a broad compass of activities may demand more financial support than it is customary for the schools to find through the usual avenues. Reviewing recent statistical figures on costs, one finds the following facts among those which must be taken into consideration before an adequate financing program can be worked out for education:

Current expenditures per pupil in both elementary and secondary education for 1939-1940 ranged from \$24 in Mississippi to about \$135 in New York. Ten states spent less than \$50, while eight states spent more than \$100 per pupil.

The per-pupil value of school property (1939-1940) ranged from \$80 in Tennessee to \$526 in New York. In seven states, such property was valued at more than \$400 per pupil.

During 1939-1940, the average length of the school term was 175 days or 8¾ months.

The average salaries for all public-school supervisors, principals, and teachers (1939-1940) ranged from \$559 in Mississippi to \$2,604 in New York. Six states paid less than \$800, while 11 states paid more than \$1,600.

In 1940, the total estimated income

\* These facts have been gathered from *Schools and the 1940 Census, Research Bulletin*, Vol. XIX: No. 5. (Nov., 1941), published by the Research Division of the National Education Association.

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payments per person aged 20 to 64 ranged from \$379 in Mississippi to \$1,509 in Nevada. Nine of the 12 poorest states were among the 12 highest in the number of children per adult.

The estimated school-income on basis of average and effort expectancy is as low as \$12 per child in Mississippi and is as high as \$157 per child in Delaware. (*Federal Aid for Education, Research Bulletin*, Vol. XX; No. 4, Sept., 1942), published by the Research Division of the National Education Association.

### NEED FOR FEDERAL AID

A study of these and other figures in the bulletin cited as the source of the foregoing summary give sufficient evidence in favor of the call for Federal aid to education. The present status in reference to the call for this aid is well described in the present Federal Aid Bill (S.1313) introduced by Senators Thomas of Utah and Harris of Mississippi in April, 1941. It was given a three-day hearing by the Senate Committee on Education and Labor but no further action was taken. Early in 1942 a modified draft of the bill was introduced under the sponsorship of Senator Thomas and Senator Hill (Alabama). This draft, known as S.1313 (Amended), provides (1) that the proposed fund of \$300,000,000 be distributed for the equalization of educational opportunities in elementary and secondary schools without reference to special phases of the problem; (2) that the money be allotted by the U. S. Commissioner of Education instead of by a special board; (3) that all but \$5,000,000 of a fund be distributed among the states and territories according to a simple formula specified in the bill; and (4) that the money be used only for educational agencies and institutions under public control. S.1313 (Amended) has the official support of the National Education Association and a number of other important national organizations. (*Ibid.*, p. 123).

During the summer the bill was approved by the Senate Committee on Education and Labor. It is now on the Senate calendar.

### TEACHER PERSONNEL

In regard to teacher personnel, the picture is changing almost from day to day. The 1942 research bulletins, *Teacher Personnel Procedures: Selection and Appointment*, *Research Bulletin* (Vol. XX; No. 2, March, 1942); and *Teacher Personnel Procedures: Employment Conditions in Service*, *Research Bulletin* (Vol. XX; No. 3, May, 1942), National Education Association, on teacher personnel are of historical interest, as are other reports mentioned. The situation as faced today must be described in newspaper estimates. An estimated shortage of between 60,000 and 100,000 teachers has been reported. Something must be done to offset the luring of teachers to industry. Schools in the highly industrialized areas and in the War Defense areas have been hardest hit by the teacher shortage, especially the rural and village schools. If Federal aid should be granted, salary increases could be given to hold teachers not called into war service. Married teachers could be called back to the schools and given necessary in-service training in some cases. Efforts should be made to recruit new teachers and to provide them with superior education (not merely short-cut training) to prepare them for the Education Front. Certification laws may have to be changed to provide for reciprocity among states on this score. A raising, not a lowering, of standards should be provided for in these times.

In an effort to raise standards, the Committee on Teacher Examinations of the American Council on Education has been working out "Teacher Examination Programs." Already 300 school systems have cooperated with the Council in giving these examinations to about 1,700 persons applying for a place in the profession or to those already teaching in the cities represented.



**TEACHER SALARIES AND PLACEMENT**

The average national salary schedule indicates that the average salary for teachers is between \$1,300 and \$1,400. In Georgia, negro teachers average \$24 to \$65 monthly for six months; white teachers, \$40 to \$80 for eight months. In Nebraska, rural teachers average \$500 in yearly salaries. Something should be done to keep good teachers in the profession and to draw new persons of high caliber to it. A boom era is imminent for teachers if the needs of the times are adequately provided for, according to Benjamin Fine of *The New York Times*. There is a call for 10 per cent to 25 per cent increase in teachers' salaries.

The National Committee for the Defense of Democracy Through Education, under the direction of Dr. Alonzo F. Myers, is doing its part to bring teachers to positions. State departments of education and both college and commercial bureaus for the placement of teachers are working on the problem.

**TEACHER TRAINING**

Most promising to the cause of elementary education is the effort being made to give more and better pre-service training to teachers under speeded-up programs, to offer summer workshop and course training of a variety of kinds at accessible college and university centers in the country, to provide excellent in-service training and re-training for teachers called to the work. Teachers are patriotically taking advantage of these opportunities. For example, in the School for Executives held in the summer under the auspices of the American Association of Teachers Colleges near Dowling, Mich., the theme was "the education of teachers for the world of tomorrow." Workshops in elementary teacher-education, set up at universities of the East, Middle-West, West, and South have called forth teachers from all states and will be making their impression on the school programs of

the current school year as these teachers progress in their work.

**ORGANIZATIONAL EFFORTS**

Organized effort in behalf of elementary education is sponsored by many groups, some of which have already been named in this report. Leadership is coming in the field of elementary education from the United States Office of Education, National Resources Planning Board, United States Children's Bureau, Youth Commission, Departments of Agriculture, Labor, Interior, and Commerce, Educational Policies Commission, United States Committee on Educational Reconstruction, WPA, PTA, NEA, and affiliated professional organizations, American Council on Education, Progressive Education Association, International Institute of Teachers Colleges, and National Association of Manufacturers. These organizations have held general and special meetings to consider many of the problems at hand. It is gratifying to note that some of these have been joint-associational meetings. An especially significant cooperative movement has been that between the NEA and the NAM. This type of working together is wholesome in that professional educators and manufacturers (natural judges of the effect of school programs) can give to each other the benefit of free exchange of ideas. The NAM has gone on record as backing education for the essential part it must play in promoting public service.

**MEETINGS**

Among the important professional meetings held were:

The February meeting of the AASA and allied professional organizations of the NEA. Theme—A War Policy for American Schools. Special topics: Teacher shortage; conservation; salvage drives; consumer education; health and physical education; safety; functional democracy;

## ELEMENTARY EDUCATION

service to adults; salary aid to schools.

The summer meeting of the NEA, in Denver. Eighteenth annual meeting. There were 6,000 in attendance. Nation-wide teacher employment, cooperation with the community, analysis of problems of Federal aid to education, the teaching of history, and regional meetings of educators with labor and agriculture groups were among the important topics discussed.

Joint NEA and NAM meetings. Fifteen have been scheduled. These meetings will be held in various sections of the country.

National meeting of PTA at San Antonio, Tex., in May. A wide range of wartime activities for the 2,500,000 members of PTA was discussed.

The United States Office of Education, under the guidance of Dr. J. W. Studebaker, Commissioner; Dr. Bess Goodykoontz, Assistant Commissioner; and Dr. Helen K. Mackintosh, Senior-Specialist in Elementary Education, have sponsored many special-committee and large-group meetings in which problems of elementary education and teacher-education have been taken up. Universities and colleges also have been and are actively cooperating with the United States Office, the American Council on Education, the American Association of Universities, and the American Association of Teachers Colleges in promoting improved teacher-education programs and in contributing, through research, to the improved curricula for children in the new schools.

### PUBLICATIONS

Significant publications have come in the professional journals, year-books, books, and monographs. Among those particularly useful in the field of elementary education are the following:

American Association of School Administrators, *Health in Schools* (Twentieth Yearbook).

American Educational Research Association: Reviews of Educational Research—*School Plant and Equipment; General Aspects of Instruction; Pupil Personnel, Guidance, and Counseling; Fine and Applied Arts, Commercial Education, and Home and Family Living; The Social Studies; Growth and Development.*

California Elementary Principals' Association, *Elementary School Environment and the Modern Curriculum* (Twentieth Yearbook).

Conference on Reading, *Adjusting Reading Programs to Individuals.* Department of Elementary School Principals, *Language Arts in the Elementary School.*

Department of Supervisors and Directors of Instruction, *Mental Health in the Classroom* (Thirteenth Yearbook).

National Council of Teachers of English, *Pupils are People.*

National Council for the Social Studies, *Social Studies in the Elementary School* (Twelfth Yearbook).

NEA Department of Rural Education, *Community Resources in Rural Schools, 1939.*

National Society for the Study of Education, *Philosophies of Education*, ed. by N. B. Henry (Forty-first Yearbook, Part I).

National Society for the Study of Education, *Psychology of Learning*, ed. by N. B. Henry (Forty-first Yearbook, Part II).

Society for Curriculum Study, *Evaluation of Modern Education*, D. Appleton-Century, 1942.

Only a few books have been named—those coming from organizations. Space fails for the naming of all the good professional works by individual authors. Such lists may be found by topics in the current *Supplement to the Educational Index*. New books, including textbooks, for the children themselves have come out in great number. Current reviews of such books have appeared from time to time in the professional journals and in such magazines about chil-

dren's books as the *Horn Book*; *The New York Times*—*Book Review Section*; *Young Wings*; *Elementary English Review*; and *Journal of the National Education Association*. The last-named journal lists 60 children's books of 1940-1941 in the November, 1941 issue.

The usual professional magazines served the field of elementary education during the year. Among those listed (see the *Education Index*) are magazines dealing with elementary education in general, with certain subject-matter fields, and with preparation of teachers for this important field of work. Some topics treated in the periodical literature of the year with the emphasis that comes from frequency of approach are:

Patriotism—How Teach It in the Schools?, Increasing Salaries for Teachers, Oral Reading, Speech Training for All Children, Music and the Other Subjects, Challenge to the Schools from Mothers in Industry Books, Bookmobiles, Protecting Children from the War of Nerves, Mobilizing the Schools for the Peace Work, Safety Education, Guidance Programs, Transfer of Training, Religious Education, Key-notes for Building in the Post-War Period: Economy and Function, Individualization of Instruction, Health Education That Is Put into Use, Recreation, Teaching Geography and History, Economy of Teaching Time, Accelerated Programs for Children and for Teachers-in-Training, In-Service Education for Teachers, and Recruiting Good Teachers.

### CONCLUSIONS

How much publication can be con-

tinued, and how much school building and furnishing can be provided "for the duration" are open to conjecture. It is evident that there must be a tightening of the educational belt at all levels and in all ways. If the cultural heritage is to be preserved and utilized as a springboard for projection into a better life, more of that education essential will have to be crowded into the elementary and high school than ever before. With higher education given up by many under the necessity of war demands, elementary and high-school work will have to be made meaningful at every step. There can be no slackness, no wastefulness. For example, a program of health education that will get results from the beginning will be needed in order to prevent a repetition of such a condition as that represented by the Government's rejection of 900,000 out of 2,000,000 on physical grounds. In addition, a program of character education that will give stamina and drive to the young people who must carry on the reconstruction is an educational imperative. In order to make possible these developments, the schools will need to give the two lines of education which Plato called "gymnastics" and "music," meaning education for physical fitness and education for culture and through culture for the "good life." Benjamin Fine of *The New York Times* has said: "... it is encouraging to observe farsighted educators planning for a better and more humane future. If these alert men and women have their way, the traditions and ideals of our democratic heritage will be made secure and steadfast."

## SECONDARY EDUCATION

BY ORLIE M. CLEM

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### THE WAR OBJECTIVE

The major aim of secondary education in 1942 was to aid in the war program, an aim thrust upon edu-

cators by the course of world events. They attempted to clarify, interpret, and objectify this aim. The fundamental character of the world con-

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flict, its stakes, and its responsibilities, were clearly drawn by Dr. Frank Aydelotte of the Institute for Advanced Study at Princeton:

"This war is a kind of civil war, a rebellion against the League of Nations. The Nazis want to unify the world by force and preside over it as a master race. The United Nations want to unify the world on the basis of the fundamental Anglo-Saxon conceptions of democracy and liberty which underlay the League of Nations. Basically, this war is a conflict between German and Anglo-Saxon conceptions of world order, the Anglo-Saxon conception being most effectively defended at the present moment by the Russians and the Chinese."

The Educational Policies Commission, policy-making body of the National Education Association, prescribed the following educational priorities for the war:

- Training workers for war industries and services.
- Producing goods and services needed for the war.
- Conserving materials by prudent consumption and salvage.
- Helping to raise funds to finance the war.
- Increasing effective man-power by correcting educational deficiencies.
- Promoting health and physical efficiency.
- Protecting school children and property against attack.
- Protecting the ideals of democracy against war hazards.
- Teaching the issues, aims, and progress of the war and the peace.
- Sustaining the morale of children and adults.
- Maintaining intelligent loyalty to American democracy.

Goodwin Watson, in "Youth and the Imperative Mood" (*Teachers College Record*, February, 1942), discussed the relation of education to the present war. He admonished that

for youth there must be three imperatives: youth must establish order; youth must extend democratic controls; and youth must plan sustained economic abundance.

### IMPACT OF WAR ON THE CURRICULUM

The secondary school curriculum was scrutinized in 1942 in terms of war objectives. Illustrations for three subject fields follow. A *New York Times* report of Benjamin Fine revealed that many high school pupils never study American history. At the San Francisco meeting of the American Association of School Administrators, Charles P. Taft maintained that the inconsiderable history which pupils have been taught has been misinterpreted to them. Mr. Taft said:

"Think back to the ideas of history, 1914-1931, that have been current in these United States in the last ten years. What are these 1914-1931 ideas? One is that all war is futile. That interpretation of history is responsible for the conclusion that since war is evil also, we should never go to war. That is pretty bad history. The defeat of France in June 1940 was not futile, whatever else it was. Neither was the liquidation of Czechoslovakia or Poland. Our own Revolutionary and Civil wars were hardly futile. Another historical view widely held was that we were tricked into the last war by a combination of munitions makers, bankers, and French, Belgian, and British propaganda. I lived through those days and I've read most of the secret history disclosed since that time and I deny the fact. The Germans spent \$35,000,000 in propaganda here and presented their viewpoint."

Educational leaders at the Denver summer meeting of the National Education Association advocated more extensive and thorough training in American history. Dr. William C. Carr, Executive Officer of the



NEA, presented the following recommendations for the teaching of current history and social studies:

"Teach the significance of the great documents which are emerging from this struggle, particularly the Four Freedoms and the Atlantic Charter.

"Teach why the United States, Great Britain, and the other associated powers are interdependent, and why it is necessary to have full cooperation among them in waging the war and in planning the peace and reconstruction.

"Emphasize, particularly, the interdependence of the republics of the Western Hemisphere. Show the advantages that have already resulted from the Good Neighbor policy and lay the basis for continuing this policy, not only during the war, but afterward.

"Teach world history, world economics, world literature, world geography. In the past few years we have begun to find out that there are important countries to the south of us. Now we are discovering that the Far East is essential to the welfare and safety of the United States.

"In teaching American history, contrast and compare this war with others. Show the circumstances leading to American involvement, the difficulties of maintaining neutrality, the varying military and naval situations, the forms of military recruiting and selective service that have been adopted at different times in our history, the effect of aviation and other technical developments on warfare and civilian defense.

"Teach the war itself as current history. Let there be a definite time and place in the school program for orderly, intelligent study of this most important of all current events.

"Teach calmly and forcefully what is at stake in this life-and-death struggle for democracy. Review and evaluate carefully the efforts your schools are making to

strengthen and enlighten the loyalty of the American people. Strengthen the guidance services offered to older youth."

Examination of the geography curriculum and instruction in the secondary school in 1942 revealed glaring obsolescence. Teachers still emphasized hemisphere geography, unmindful that the aeroplane had created global geography. However, in the fateful year 1942 Major Alexander Seversky's *Victory Through Air Power* turned the physical world upside-down for many teachers of geography. They discarded their Mercator Projection maps. Their new global geography placed the North Pole in the center of the map, as the hub in the center of a wheel. They recognized North America as situated at the bottom of an enormous ocean of air. By such token the teachers of the new geography were amazed to find that Moscow is 600 miles nearer New York than Seattle; Minneapolis is 300 miles nearer to Tokio than is San Diego, Calif.; Brazil is closer to Spain than it is to New York; and Europe is closer to New York than is most of South America.

The armed forces and the war industries in 1942 demanded basic training in science and mathematics. The public schools of the District of Columbia inquired of the Navy Department what the schools could do to contribute to victory. The Navy replied with the following trenchant communication:

"The Navy Department after a careful survey finds that its training program will continue to be vitally handicapped unless immediate corrective measures along certain lines are instituted in the schools of this country. The survey shows that there is a terrific lack of adequate preparation in the basic fundamentals of mathematics and the sciences in the men whom the Navy accepts for training.

"With our widespread democratic system of secondary and collegiate education, our nation is justified in demanding that we should

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always have on hand a relative surplus of people with mathematical training through substantial secondary mathematics and also a surplus with elementary college training in the subject. We do not now have this surplus."

Regardless of Progressive theories concerning mathematics, most secondary schools in 1942 bolstered their curriculum so as to provide more thorough and basic training in science and mathematics. A considerable number of schools, however, merely relabeled old courses. Concerning the latter method of curriculum readjustment, Prof. Thomas H. Briggs declared:

"Education will make no significant contribution to democracy if it continues to teach the traditional curriculum, even if it labels the courses 'Arithmetic in the Present Emergency,' 'Geography in War times,' or 'Penmanship in a Period of Crisis.'"

### THE TEACHER'S FUNCTION IN TOTAL WAR

Total war in 1942 witnessed teachers in the front lines of the military and armed forces. Like that soldier-teacher, Nathan Hale of New London, they put aside their books and took up the sword. They were at Bataan and Corregidor, at Midway and the Coral Islands, on the desert and other far-flung fields. Many women teachers followed the trail of Florence Nightingale toward the East. Women teachers provided more successful candidates for the Waves and Waacs than did any other group. They appeared to possess "what it takes."

On the home front, secondary school teachers performed with similar service and sacrifice. Teachers were invited by the Government to participate in selective service registration. They were commandeered for gas and sugar rationing, and responded with long hours of afternoon and evening work. New York City teachers contributed without compensation a considerable part of the sum-

mer to school-war duties. More than a third of them obtained Red Cross certificates. Secondary teachers throughout the country participated in all phases of Civilian Defense. They received instruction in first aid, chemical warfare, and blackouts. Many a science teacher's extra-curricular hours were spent in teaching such activities. Teachers participated in salvage campaigns and numerous other defense activities.

Principal Abraham Lefkowitz, Samuel J. Tilden High School, New York City, prudently warned against futile war tasks or "made work" as follows:

"Our teachers are working under a war tension. They are conducting weekly air raid drills. They are participating in Civilian Defense. They are called upon for many detailed tasks. Now let us bear this fact in mind: teachers are human beings with just so much energy at their disposal. We want to do work which will mean the triumph of America, but if, under the tension, you bedevil teachers with made work not immediately and imperatively necessary, you render them physically unfit for their basic tasks."

In a similar vein, Prof. Thomas H. Briggs admonished teachers as follows:

"Teachers can knit sweaters, roll bandages, act as air-raid wardens, buy victory bonds, and perform other such services in common with other citizens. But unlike most of their fellows they have an unrivaled opportunity and a high duty to perform the unique functions of leadership that their education fits them for and that their employment obligates them to accept. If they are worthy teachers, they will become worthy leaders in democracy."

### THE PUPIL'S FUNCTION IN TOTAL WAR

In 1942 secondary school pupils were participants in the global war.

This participation has resulted from two streams of influence. British experience had demonstrated that children were better off when they were partners with adults in the war program. Originally, adults had tried to isolate children from the physical and mental horrors of the war. In the "Battle of Britain" this was impossible. The children demanded a part, and they fared much better psychologically when they had something to do. The children won the privilege to participate. When America entered the conflict, there were a few timid but well-meaning souls who wanted to shield the children, remove them from any possible war theatre, and exclude all war news. The will of these few did not prevail. A second influence contributing to the major stream of pupil participation in the war program was the development of so-called extra-curricular activities. Too frequently, however, the extra-curricular program has been superficial and unreal. Constantly, one has heard of the "honor system of Siwash," the "reorganization at Jerkwater," the "point system at Podunk." Global war in 1942 provided for secondary school pupils mutual partnership in an inevitable and realistic project. The pupils were grateful to have their fingers in such a stupendous pie. Secretary of the Navy Knox initiated the high school pupils into the program by immediately calling upon them for 500,000 aeroplane models for use in the training of naval combat forces.

The entire student body of the Keppel High School, Alhambra, Calif., drafted and committed themselves to the following conservation pledge:

A. I will cooperate in conserving materials by:

1. Closing doors to save heat.
2. Adjusting window shades to save electricity.
3. Being careful of soap and paper towels in the lavatory to save these materials.
4. Taking better care of my present clothes to save materials.

5. Saving all pieces of old metal.
6. Using less paper, pencils, and ink in school.
7. Getting to class on time to save paper on tardy slips.
8. Eating all my food and throwing nothing away—to help conserve food.
9. Returning my cold drink bottles to the canteen to save glass.
10. Walking whenever possible to conserve gasoline.
11. Driving carefully to conserve rubber.
12. Saving and re-using paper bags to conserve paper.

B. I will aid to conserve manpower by:

1. Cooperating in all blackouts to conserve manpower.
2. Picking up lunch bags to conserve custodians' service.
3. Picking up my tray in cafeteria to conserve workers.

Each boy in the high school chemistry class at Fort Dodge, Ia. renders service in the fire patrol. Each boy in the high school at Las Vegas, Nev. serves as an assistant air-raid marshal and blackout warden in the block where he lives. The Community High School, Marengo, Ill., has a pupil defense council. The West High School, Rockford, Ill., has an international committee designed to stimulate the interest of pupils in the culture of our hemisphere neighbors. Pupils in most secondary schools have participated in the sale of defense bonds and stamps, in salvage campaigns, in various community war programs, and Civilian Defense.

#### HEALTH AS A CARDINAL OBJECTIVE

Health held a high priority rating in secondary education during the year. Of the first 2,000,000 men examined for the armed forces, 50 per cent were rejected as unfit. This was a terrifying fact to emerge from our vaunted school program of physical education. Hitler had boasted that the democracies had become decadent, grown "soft." Other statistics had revealed that scarcely 15 per cent

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of the air raid wardens were physically capable of performing the activities peculiar to their work. Yet this was a total war. The bleachers were down, and the erstwhile spectators were now in the game. Health and physical fitness were paramount for youth and adults, and on all fronts.

The 1942 annual yearbook of the American Association of School Administrators was entitled, *Health in Schools*. After an analysis of comprehensive data, the yearbook made the following significant and hopeful statement: "America's youth today is more fit to serve the country than was any previous generation including the youth of the first world war period. America's new army is in better physical shape than the forces of 1917-18." The yearbook prescribes the following elements for a sound school health service: a healthful environment for the school child, a health guidance program with adequate records and competent supervision, a health service for emergencies, services for the physically handicapped child.

To contribute to the war program, secondary schools generally recognize the necessity for introducing the Spartan element into the physical education program. This orientation represented a marked departure from orthodox practice. For 20 years the secondary school's physical education program had been centered largely upon social outcomes, recreational values, and the development of interest and skill in leisure-time play activities useful throughout life. A description of the "Junior Commando" plan at the Flushing, N. Y. High School reveals the new Spartan emphasis:

"As one of the first steps, the Flushing High School program called for the running of the mile in less than seven minutes by every boy in school, as a part of the health education course. However, to qualify for the Flushing Commando rating, the student must run the mile in less than six minutes.

"Other strenuous physical standards are expected to develop the muscles necessary to fight the enemy. Among the requirements are: dip ten times on parallels; chin ten times; climb ropes without feet; vault over elephant at five feet; pick up and carry own weight 100 yards; high jump four feet; step and leap 16 feet; running broad jump 16 feet; run quarter mile in 62 seconds; run half mile in two and one-half minutes; run mile in six minutes."

### MORALE AS A COMPREHENSIVE OBJECTIVE

High in the list of priorities for secondary education in 1942 was the teaching of morale. In the *Journal of the National Education Association*, April 1940, Mrs. Dorothy Canfield Fisher wrote this indictment of American youth:

"I have been a member of the American Youth Commission for five years. I have been struck by the fact that almost none of the hundreds of thousands of youth with whom contact has been made, has said a word of recognition of what America does for its young people. They have difficulty in finding jobs—or in finding jobs they like. That they are in complete safety, thanks to our magnificent American political system, with our federation really succeeding, they never think of, that their country has provided free schooling for them, in many cases free health service, free library service, etc. Their minds have never moved from the chalkline long enough to perceive these fairly sizable facts, let alone appreciate what they mean. Young, in reasonably good health, in personal safety, free to do whatever they like so long as it does not cost money—they cannot think of anything that anybody would like to do except those things which cost money."

At approximately the same time, a German youth wrote to an American high school boy as follows:



"I am glad to join the *Arbeitsdienst*. We must help the peasants in the harvest time. I am not accustomed to the work, but I shall try to love it. It must be an elevating feeling to march with the gray columns through our German country, side by side with the sons of laborers and ministers, artisans and noblemen, all with shouldered spade and with one creed: 'Whatever our Führer Adolph Hitler does, he is right.' Germany is the most powerful state of the world with the best army, the best leader, the best government, the best idea. No country in the world will be able to defeat us. The will of Adolph Hitler is stronger than the will of the sum of all other statesmen. He is sent by God to free our country, and to free the world from the despotism of the Jews and the capitalists, who wish to send the nation into bloody wars in order to earn themselves much money."

In the same months, before he was killed in battle, a member of the R.A.F. wrote to his mother:

"Today we are faced with the greatest organized challenge to Christianity and to civilization the world has ever seen, and I count myself lucky and honored to be of the right age and fully trained to throw my full weight into the scale. For this I have to thank you. For all that can be said to the contrary, I still maintain that this war is a very good thing; every individual is having a chance to give and to dare all for his principle, like the martyrs of old. However long the time may be, one thing can never be altered—I shall have lived and died an Englishman. Nothing else matters one jot, nor can anything ever change it. You must not grieve for me, for if you really believe in religion and all that it entails, that would be hypocrisy. I have no fear of death, only a queer elation."

During this period many serious

men wondered if something had really gone out of American life. Was it possible that the Mayflower Compact, the Declaration of Independence, the Bill of Rights, and the Gettysburg Address had lost their significance? Had Lexington and Concord and Valley Forge been forgotten, along with Nathan Hale, Robert Morris, and Paul Jones? After the first World War, it became a common sport for sophisticated educators to "pooh-pooh" our participation in it. Key phrases in their discussions were: nobody wins a war, mob psychology, an imperialistic war, a munitions makers' war, war hysteria, propagandized into war, taking the glory out of war, Europe's wars, what did we get out of it, the war-debt burden, pulling Britain's chestnuts out of the fire. In the meantime, America approached ever nearer to the challenge,—*Do you really believe in America?* Is America and the American way of life worth living and dying for? The spirit of freedom which had created and made America great needed to be idealized, emotionalized, dramatized. This need was provided at Pearl Harbor, at Bataan, and Corregidor by such men as MacArthur, Colin Kelly, and Lieutenant Powers. Secondary schools in 1942 mobilized their tremendous resources for the building of an invincible morale.

The following comprehensive list of suggestions for school and home morale, illustrating the type of activities conducted by many secondary schools, was prepared by the social studies department of the La Porte, Ind. High School:

1. Stimulate lively discussions of current events.
2. Develop a thorough understanding of the nature of democracy—its origins, history, achievements, problems, and values.
3. Teach the importance of hemispheric solidarity.
4. Help pupils to see and feel their part in this national emergency.
5. Make certain that there is a

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"participating citizenship" and democracy in action in each classroom and in the school system.

6. Stress respect and love for national emblems, and instill patriotism.
7. Develop a spirit of cooperation, tolerance, and a willingness to sacrifice in the interest of the common good.
8. Continue to teach the basic principles and facts of American history, government, and geography.
9. Show how democracy is better than other forms of government.
10. Teach the dangers to democracy from without and within.
11. Teach the problems of organizing industrial and economic resources for defense.
12. Teach the importance of conservation of our natural resources.
13. Teach pupils the importance of getting reliable information in order that they may not be upset by idle or malicious propaganda.
14. Teach pupils to anticipate what post-war problems are likely to confront us.
15. Emphasize in instruction the development of proper attitudes and techniques of learning as well as factual information.
16. Provide opportunities for training effective techniques of group discussion, group criticism, and group decision.
17. Teach the issues and aims of the war.
18. Provide opportunities to stress the courage and fortitude of our forefathers against much greater odds.

### EMPHASIS ON EDUCATIONAL REALISM

The war emergency thrust the vocational phases of secondary education into high gear. L. H. Dennis, Executive Secretary, American Voca-

tional Association, charted some of the trends as follows:

1. Teachers of vocational agriculture are preparing to extend to adults the out-of-school training program on farm-machinery operation and repair, and to increase the production of farm crops through a \$15,000,000 wartime training program authorized by Congress.

2. Industrial-education teachers are learning to speed up instruction in order that no time may be lost in the "V-training," or the program of vocational training for war-production workers for which Congress has appropriated \$94,000,000 for 1942-43.

3. Home-economics teachers are learning to increase their value to the community in the fields of nutrition, home care of the sick, first aid, and home and community food canning and conservation.

4. In the field of business education, teachers are preparing for emergency programs to train office workers to meet growing shortages in war-industry areas.

Symptomatic of the present trend is a July report of a national conference on "Educating for the Air Age." The following recommendations were made to secondary schools:

1. The committee recommends further strengthening and extension of aeronautical shop instruction wherever facilities permit.
2. The committee recommends that every subject in the secondary schools be taught with the implications of the air age in mind.
3. The committee recommends that various types of aviation clubs be organized for all students who may be interested. It is further suggested that, under proper safeguards, flight or glider training programs may well be developed through such groups.
4. The committee recommends that regular courses in pre-flight

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aeronautics be elective for eleventh and twelfth grade pupils.

At the opening of the academic year 1942-43, the New York City schools made compulsory the "pre-induction" and "pre-flight" program for all boys and girls over 16 years of age. Courses stressed in this program included electricity, mechanics, shop work, radio, and automotive mechanics.

### THE QUEST FOR TOLERANCE

The year witnessed an attempt on the part of the secondary school consciously to teach racial tolerance. Several factors underlined the urgency of this problem. Pearl Buck in numerous articles pleaded that we recognize the Chinese as brothers and forget the color of their skin. In *The New York Times*, Madame Chiang Kai-Shek supported the same ideal. She maintains America can never understand the Orient and its problems until the color line is forgotten. The exigencies of the war have taught Americans much. They fight against the Japanese and for the Chinese, but they differ little in color. Many peoples fight with the Americans who do not have the same color of skin.

The whole problem is complicated. Americans condemn their enemies for discrimination against the Jews, yet their treatment of the Negro has not been blameless. A little progress seems to have been made in 1942. Governor Talmadge of Georgia was defeated for re-election because of his racial bigotry. Phi Delta Kappa, honorary educational fraternity, removed through a nation-wide poll its 30-year-old discriminatory white clause for membership. Negroes were admitted for the first time into the forces of the U. S. Navy.

It was generally agreed that the war had done something to America in reducing racial intolerance. The impact of numerous influences convinced workers in secondary education that racial and religious tolerance should be taught consciously in the schools. The "Brotherhood

Week" in New York City high schools heralds a hopeful beginning in a neglected area. The following statement by Principal Hymen Alpern reveals the nature of the new institution:

"In one high school the Brotherhood Week assembly was conducted entirely by the pupils. The president of the senior class presided, and five student speakers described: the Catholic contribution to America, the Jewish contribution to America, the Protestant contribution to America, the Negro contribution to America, the contrast in American and totalitarian ideologies as seen by a refugee. In a number of schools the speeches were supplemented by recitations and choral readings. For example, pupils recited Charlie Chaplin's address from the close of "The Great Dictator," portions of the "Ballads for Americans," and an excerpt from Lincoln's reply to Douglas from the play, *Abe Lincoln in Illinois*."

### POST-WAR RECONSTRUCTION

Secondary educators are convinced that victory must be won on two fronts—combat and recovery. It is incorrect to conclude that they are disillusioned about war. It is more accurate to say they are re-inspired. They have debunked the debunkers. They believe it does matter who wins a war. They know they are fighting for their very lives, their existence. They want not only to win the war but to win the peace. They won the First World War but lost the peace. It must not happen again. They are stark realists. Unlike the first time, they are now talking and planning for the peace. They recognize that when firing ceases the United States must lead the way in the care of veterans, distribution of resources, reduction of unemployment, policing of the world, and recognition of the dignity and worth of the individual.

Many secondary schools are already considering post-war problems in their social studies classes as well as in assemblies, homerooms, and

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other school groups. Numerous adult groups have already been organized from which materials may be obtained. A list of such organizations has been provided by G. B. Galloway, "Post-war Planning in the United States," Twentieth Century Fund, New York. Dean William F. Russell, Teachers College at Columbia, indicates the four great problems of post-war education as follows:

1. *For the school administrator:* How to administer education as a part of community services and maintain efficiency of the educational process.
2. *For the political scientist:* How to support education from Federal funds and at the same time maintain the control of the mind in the localities.
3. *For the teacher:* How to teach people to pull together like a college crew and not slaves in a galley.
4. *For all Americans:* How to be peaceful and kind, and at the same time control the gangsters,

locally, nationally, and internationally.

The domestic demands upon education in a post-war world are reflected by the following statement of O. T. Bright, an Illinois educator:

"Perhaps those bowed and hopeless shadows living in cramped, drab, filthy quarters are what they are because of their folly. Perhaps they have wasted opportunity. Maybe they deserve our righteous scorn, but what of their children—those quarreling, shrieking, little creatures of the alley? Their name is legion, their voices a few short years hence will rule the nation. Are they protected from false doctrines? What are we doing to assure that these millions will carry on the ideals our forefathers so wisely established—ideals of manliness, of self-dependence, of individual effort? Can we be sure that when they come to select their representatives in the Government of the nation their choices will be wise?"

## HIGHER EDUCATION

By ALONZO F. MYERS\*

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### COLLEGE AND UNIVERSITY ENROLLMENTS IN WARTIME

For the second successive year, college and university enrollments in the United States in 1942 registered a sharp decline. It is necessary to go back to the First World War years to find a parallel situation. The decreased enrollments in 1941 were accounted for by the operations of the Selective Service Act and the attractions of defense jobs. The continued decline in enrollments, and at an accelerated pace in 1942, were ac-

counted for by the war. All of the factors operating in 1941 were present in 1942, plus the patriotic impulse of youth to enter the armed services. Women, as well as men, have been leaving the campuses by the many thousands. The action of Congress in lowering the draft age for men to 18 gives clear indication that college enrollments have not yet hit bottom.

With the exception of medical, dental, and engineering colleges, whose training pertains directly to war preparation, most of our institutions of higher learning opened in the fall of 1942 with enrollments sharply below those of a year ago, which in turn were about ten per cent under 1940 figures. A large majority have losses ranging from five to 58 per cent below 1941 enrollments.

\* The writer is indebted to graduate students enrolled in his course in Current Problems in Higher Education for valuable assistance in the collection of material for this article. He is also indebted to President Raymond Walters of the University of Cincinnati and to *School and Society* statistics of attendance in universities and colleges.



**COMPARATIVE ENROLLMENT FIGURES**

Enrollment figures for 667 approved colleges and universities show 746,922 full-time students, or 9.5 under the 1941 registration, and a grand total of 1,075,849, including part-time and summer session students, or 13.9 fewer than in 1941. It is interesting to note that the number of freshmen in undergraduate courses is down only 1.7 per cent as compared with 1941, whereas the 1941 freshman enrollment had been 4.5 per cent smaller than in 1940. It is obvious that before the 1942-1943 school year ends the operation of the 'teen age draft act will greatly reduce freshman enrollments.

Enrollment decreases other than freshmen are heavy and they are nation-wide, although not uniform. The smallest enrollment loss was in the East North Central division of the United States, where there was an enrollment loss of only 1.6 per cent. The largest was in the West South Central division, which registered a loss of 16 per cent. Only two states, Connecticut and New Jersey, registered increased enrollments over 1941. Connecticut's seven institutions of higher education reported 8,864 students, an increase of 8.7 per cent. New Jersey, with 11 higher institutions reported 10,112 full-time students, an increase of 7.2 per cent.

**LOSSES IN TEACHERS COLLEGES**

Of the five institutional classifications represented in President Walters' survey, the greatest loss in enrollment was reported by 78 teachers colleges (approximately one-half the total number), in which the 49,436 full-time students were 22.5 per cent fewer than in 1941. These same institutions had reported the second heaviest enrollment loss in 1941 as compared with 1940. Their loss in 1941 was 15.35 per cent. This is of especial significance in view of the widespread shortage of teachers, and of the fact that it is to the teachers colleges that the nation must look for a majority of its new teachers. Un-

fortunately, too, these enrollment losses tend to be greatest where the teacher shortage is most severe. It may be worth noting that the states having the greatest teacher shortage are the ones paying the lowest salaries to their teachers.

**PUBLIC AND PRIVATE UNIVERSITIES**

The second heaviest loss in enrollments was in the 55 universities under public control, with 230,977 students, 10.0 per cent under 1941. These institutions suffered the heaviest attendance loss in 1941 as compared with 1940. Their loss in 1941 was 16.17 per cent. The third heaviest enrollment loss was in 430 independent colleges of arts and sciences, whose total of 215,888 students was 8.8 under that of 1941. Their loss in 1941 was 3.62 per cent. The fourth heaviest loss was in 51 universities under private control, with 158,674 students, 7.3 per cent below 1941. In 1941 these institutions registered a loss of 5.90 per cent below 1940. The best record for enrollments in 1942, as in 1941, was made by 53 technological institutions. They enrolled 91,947 students in 1942, a loss of 5.4 per cent. These institutions suffered a loss of only 2.57 per cent in 1941.

**LAW SCHOOLS**

The nation's law schools suffered such heavy enrollment losses that many of them can scarcely hope to continue in existence. The law schools of 83 universities recorded an enrollment loss of 51.3 per cent below their 1941 enrollments. In 1941 these same institutions had registered a loss of 25.2 per cent below their 1940 enrollments. Thus, on the average, the law schools are operating with only about one-fourth of their pre-war enrollments. The loss in enrollment has been substantially the same in the law schools of public universities and those in private universities.

**GRADUATE SCHOOLS**

In graduate schools of arts and sciences, reports of 85 universities showed a decrease of 29.9 per cent

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as compared with 1941. The loss in 1941 was 17.2 per cent as compared with 1940. In 40 universities under public control the loss this fall was 32.9 per cent; in 45 universities under private control the decrease was 27.2 per cent.

In fields earlier designated as essential for national defense under the Selective Service regulations, enrollments were somewhat larger than in 1941. These fields include medicine, dentistry, and engineering. This was true also in 1941 as compared with 1940.

### WOMENS COLLEGES

Quite naturally, enrollment losses have been larger among men than among women students. Of 73 independent colleges for women, eight reported increases in enrollment, 25 reported approximately the same enrollment as the fall of 1941, and 40 reported decreases. President Walters' survey discloses that there was a decline of 2.9 per cent in women taking arts and science courses in 84 coeducational universities. The decrease in men students was 8.5 per cent.

### ENROLLMENTS BY SUBJECT CLASSIFICATIONS

An analysis of freshman enrollments in the fall of 1942 shows distinct shifts in student preferences. In arts and science registrations there were 129,051 freshmen enrolled in 1941 as compared with 126,396 in 1942. In engineering there were 32,691 freshmen enrolled in 1941 as compared with 40,079 in 1942. In commerce there were 20,687 freshmen enrolled in 1941 as compared with 18,243 in 1942. In agriculture there were 8,922 freshmen enrolled in 1941 as compared with 7,844 in 1942. In teacher-training curricula there were 29,359 freshmen enrolled in 1941 as compared with 24,324 in 1942. These figures do not represent complete freshman enrollments in all of the nation's colleges, but they do represent an adequate sampling, and the figures presented for the two years are comparable.

### COLLEGE AND GOVERNMENT COOPERATION

The year 1942 was noteworthy, as far as higher education is concerned, for the unceasing efforts on the part of the colleges and their spokesmen to integrate higher education with the war effort. The necessity for doing this was obvious both from the standpoint of winning the war and of saving the colleges. Great progress was made during the year, and much remains to be made.

On Aug. 26, 1942, at the request of the Joint Army Navy Personnel Board and the War Manpower Commission, the American Council on Education appointed the Committee on the Relationships of Higher Education to the Federal Government. This committee is the officially recognized liaison agency between the colleges and the War and Navy Departments. With the amendment to the Selective Service law so as to include 18- and 19-year old youth, and with the abandonment of the Enlisted Reserve Corps, it became necessary to develop an entirely new plan and program for utilization of the colleges and universities by the military establishment. The American Council's Committee on the Relationships of Higher Education to the Federal Government deserves great credit for the patience, persistence, and forbearance with which it handled its part in the difficult negotiations with the War and Navy Departments.

It is clear that the American Council's committee was not completely successful, especially with the Army, in securing the kind of arrangements for utilization of the colleges that it recommended. With the Navy it had a much greater degree of success. Both plans contemplate that the educational training in the colleges will be carried on while the men are on active duty, in uniform, receiving pay and under general military discipline. The armed services will contract with colleges and universities which will furnish to the men selected by the services instruction in curricula prescribed by the services, and also the

necessary housing and messing facilities. Selection of institutions will necessarily be governed by their facilities for undertaking such responsibilities. The plans of the Army and the Navy, in their fundamentals, are the same, but there are considerable variations as to important details of the two plans.

#### THE ARMY COLLEGE PLAN

Criticisms of the Army plan for utilization of the colleges relate in the main to the following points: (1) the number of young men to be selected for training in the colleges; (2) the manner of selection; (3) the length of the training period in the colleges; (4) the extent of opportunities for qualified men to remain in college beyond the basic minimum period of college training; (5) the Army's plan to induct men into the service and give them 13 weeks of basic military training before assigning them to college. No doubt there will be modifications in the plan based on experience with its operation. At present, however, it must be said that the plans of the Army for the utilization of the colleges are distinctly disappointing to most educators. There is general approval of the Navy's plan.

#### SPECIALIZED TRAINING PROGRAMS

Entirely aside from the comprehensive plans for utilization of the colleges by the Army and the Navy as outlined above, many institutions are rendering important services to the military establishment. For example, the Navy announced in December, 1942, that it had made contracts with 20 colleges throughout the country for ground training of aviation cadets. The plans call for the assignment of 200 aviation cadets to each of these 20 colleges. Many other such arrangements have been made with hundreds of colleges and universities for their utilization in specialized training programs.

#### OPERATIONAL AND FINANCIAL PROBLEMS

With the entrance of the United

States into the war, it was recognized that it would be necessary for much, if not all, of the higher education establishment of the country to abandon its usual practice of shutting down for a long summer vacation. It also was recognized that virtually 12-month operation would involve certain financial problems, especially for the students, many of whom had been accustomed to earn part of their college expenses by working during the summer vacation periods. Without financial assistance many of these students would not be able to remain in college on a 12-month basis. It was believed that such financial assistance would have to be granted by the Federal Government. To date, there has been only limited action along this line, with the result that the proposed 12-month operation is far from being an accomplished fact.

For the fiscal year 1942-1943 Congress appropriated \$5,000,000 to degree-granting colleges and universities having accelerated programs in engineering, physics, chemistry, medicine, dentistry, and pharmacy, for student loan purposes. Students in need of assistance may borrow up to \$500 a year through direct application to the institution they are attending. Interest is charged at the rate of 2½ per cent a year, but in case the student is ordered into military service before completing his course, in case he suffers total or permanent disability, or in case of his death, the loan will be cancelled. The loans are available only to those students registered in accelerated programs and majoring in the scientific fields named above.

#### CURRICULA AND ORGANIZATION

Numerous changes in college curricula and organization were effected during our first year at war. Intensive and extensive physical fitness programs now are the order of the day at practically all colleges, including colleges for women. A majority of all courses have been examined with a view to their modification in relation to war needs. Some courses have been discontinued on the grounds



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that they do not contribute. Many new courses have been added. Typical of these are courses in visual perception, commando training, explosives safety, Oriental speech, and many others. Courses in astronomy now have been changed to "Astronomy and Navigation." Geography courses now tend to be labeled "cartography." Several universities have established new units for the purpose of facilitating the coordination of war training programs and of initiating new ones under some such name as College of War Training. At the end of 1942 integration of higher education with the war was far from complete, but well on the way. The process will be completed in 1943.

A significant trend was a definite increase in Latin American courses. Many institutions which had not previously offered courses in Latin American history, or in Portuguese, or in Spanish, have now added such courses. Those that had previously offered such courses generally found enrollments in such courses increased. This development, which has occurred as a result of the war, probably will continue after the war ends, and should make a significant contribution to the Good Neighbor policy of the Government.

### THE OUTLOOK FOR SURVIVAL OF HIGHER EDUCATION

It is too early to answer the question of whether higher education will survive the war. Something over 50 of the smaller and weaker of the higher institutions had to close their doors during 1942. When many thousands of 18- and 19-year old boys are drafted for military service at the end of the first semester of the school year 1942-1943, hundreds of the nation's colleges will be under the most severe financial strain they have ever experienced. It unquestionably is true that the ability of the colleges to survive will depend primarily upon their ability to integrate their programs with the needs of a society at war. Not all of these needs are for the development and training of fighting men. The nation is experiencing a

great shortage of and has a great need for many thousands of educated and technically trained men and women who can be produced only by the colleges and universities of the country. The colleges and universities are aware of this fact, but there is some doubt as to whether or not the public will recognize it. There is also some doubt as to whether or not the Federal Government recognizes it.

To date the colleges have been reluctant to lay their case before the court of public opinion for fear that they would be accused of pleading self-interest. Consequently, only occasionally have individuals spoken out on the danger that confronts the nation's higher education establishment. It has been evident for some time that it would be necessary for some agency to endeavor to secure united action on the part of the colleges and universities in placing the case for the preservation of the colleges before the country. This, the National Education Association's Commission for the Defense of Democracy Through Education undertook to do at the end of December, 1942. The statement which follows has been sent to every college president in the country as the first step in a large-scale campaign for the purpose of acquainting the public and the Federal Government with the role of the colleges in wartime and with the necessity for the adoption of a program for enabling the colleges to serve the nation at war. The statement follows:

### NATIONAL EDUCATION ASSOCIATION STATEMENT

"American colleges and universities have a greater responsibility today than ever before in the history of the nation. Never before has there been such a tragic shortage of people in training for doctors, dentists, psychiatrists, engineers, mathematicians, physicists, chemists, draftsmen, economists, personnel workers, statisticians, nurses, social workers, dietitians, linguists, and teachers. To meet this need, both for the immediate war program and for the long



difficult rebuilding period to follow, all colleges and universities should be fully functioning today, next spring, next summer, next year, and throughout the war period. Yet today hundreds of these institutions face the prospect of being forced to close their doors for want of students.

"Unless some comprehensive policy is immediately formulated and put into action by which all higher education can achieve maximum usefulness and utilization in the nation at war, the nation will have been deprived of one of its most important agencies, both for winning the war and for maintaining democratic institutions following the war.

"The foreshadowing of such a policy is already apparent. Our colleges and universities are today making many thousands of men and women into skilled war workers, under the direction of the U. S. Office of Education training program. Thousands of officers and enlisted men and women in the armed services are receiving technical training on college campuses in all parts of the country. As 18- and 19-year old men are drafted, the most capable among them will be assigned to certain selected colleges for special instruction and training. Some of our colleges have been almost completely turned over to the Army and the Navy as training centers. Doubtless many more will be so utilized.

"This is important and necessary, but it is only a beginning, and the objective involved is necessarily a short-term objective. The shooting war and its demands must come first. But in winning it, we must not destroy resources that will be even more vitally needed in the long and difficult transition from war to peace. Colleges that have been closed and their faculty members dispersed, cannot readily be reopened. It took a long time, and an enormous investment in energy, money, and human devotion, to bring into being our great higher education establishment of large and small, public and private, colleges and universities. It will take

a long time to replace them if they should become casualties of war.

"Unless the war ends much more quickly than we dare to hope that it will, increasing thousands of men will soon be returning from the battle zones, physically incapacitated for further combat duty. These men must be physically, emotionally, educationally, and vocationally rehabilitated. If we close the doors of the colleges today we will have deprived many of these men of their rightful chance to find a useful place in society. Society, no less than the men, will be the loser.

"Nor is this all. We know that when this war ends we shall be faced with problems that in many respects will be far more complex than those we now face in waging war. We must help feed, educate, and rehabilitate a large share of the world. We must make intelligent and important decisions relative to our participation in some form of world organization for the preservation of peace. We must quickly and successfully accomplish the transition from a wartime to a peacetime economy. Millions of service men and war workers must be aided in accomplishing this transition. We must not be caught unprepared for that day when the world will need more than fighting men and munitions of war. In these gigantic tasks that lie ahead, we shall have urgent need for all of our colleges and professional schools.

"Therefore, we offer three specific proposals for enabling the colleges to serve and to survive during the war. These are:

"1. We urge that by Presidential proclamation and by Joint Congressional resolution the Federal Government express its desire that every capable young person not needed in the armed services consider carefully the national need of educated technicians and leaders in the war and after-war period, and that the government consider the continuation of the higher education of our youth an important contribution to our national welfare.

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"2. We urge the War Manpower Commission, in planning for and recommending the use of young men and women of college age not in the military service, to make ample provisions for college attendance. If the plan is adopted of allocating manpower, we urge that adequate allocations for college study be made from among the young men whose services are not required for military duty, and from among the young women. Only by such a generous allocation can the nation be provided with an adequate continuing supply of educated and technically trained men and women for essential services to our society during the war and in the years following the war.

"3. We urge that Congress establish a large number of adequate scholarships for college students for the duration of the war. These scholarships should be available to qualified women and to qualified men not being used in military service, thus making the opportunity for higher education available to intellectually gifted and capable youth without reference to their economic status. Such scholarships should be accompanied by an obligation on the part of those receiving them to render useful community service essential to the prosecution of the war, under direction of college officials. These scholarships should be distributed on a merit basis through the United States Office of Education in cooperation with the colleges and universities."

### **POLITICS AND EDUCATION IN GEORGIA**

In 1941 Eugene Talmadge, then

Governor of Georgia, shocked the country by his political interference in the operation of the state's system of higher education. Regional and national accrediting agencies acted promptly in expelling the state-supported higher institutions of the State of Georgia from their accredited lists. In 1942 the people of Georgia took equally decisive action at the polls by defeating Talmadge in his candidacy for reelection as Governor. It is to be hoped that politicians in other states will learn the lesson contained in this series of events, which is that political interference with education is not safe.

### **DEPARTMENT OF HIGHER EDUCATION IN THE N.E.A.**

The National Education Association, at its annual convention in Denver, Col. on July 2, 1942, authorized the reestablishment of a Department of Higher Education. This action was taken as a result of petitions signed by approximately 500 presidents, deans, and professors who were N.E.A. members. Higher education was one of the original four departments of the N.E.A. The Department was abolished in 1922. Its reestablishment makes it possible for the National Education Association again to be truly representative of the entire teaching profession in the United States. The new Department will hold its first meeting in St. Louis Feb. 25, 1943. Its reestablishment comes at a time when higher education feels keenly the need for a powerful organization devoted to the protection of higher education.

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### **BUSINESS EDUCATION**

The training of men and women for positions in war industries and in the U. S. Army and Navy was the chief concern of many business educators

during 1942. Special courses and schools encouraged and established by the various branches of the armed services have employed thousands of teachers with business education ex-

perience. In some instances these teachers have been employed as civil service employees, in others as civilian members of a college or university staff, and in many cases as enlisted or commissioned members of the branch of the Army or Navy for which the school was created.

The demand for office workers, teachers of business education subjects, and individuals qualified to serve in research and administrative capacities has encouraged enrolments in high school and college courses. Shortages of qualified teachers and the Selective Service Act are factors which have prevented the enrolments from increasing as much as they would have otherwise.

Increasing prices, priorities, and the use of substitute materials, which were important production and consumption problems in 1941, became still more urgent in 1942. The distributive education program which ended its fifth year on June 30, 1942 continued to assist in the solution of problems of distribution. The probable increase in the number of items rationed, extremely high labor turnover, and restrictions on the use of credit and delivery services will add to the need for distributive education during 1943.

#### ENGINEERING EDUCATION

**Engineering Schools.**—The unprecedented demand for technical workers which characterized 1941 continued during 1942. The engineering schools increased the length of summer sessions where they were already part of the program, and in many other cases offered summer work for the first time. Many institutions shifted to an accelerated program to make it possible for students to complete the engineering curriculum in less than the customary number of years.

**War Training Program.**—The Engineering, Science, and Management War Training Program financed by the Federal Government has aided greatly in the training of those about to be employed and those already employed in the fields of chemistry,

physics, management, and engineering. In order to obtain needed workers as rapidly as possible war industries are employing those who have acquired a single technical skill even though they have not completed their training. The ESMWT program may, therefore, direct more and more of its energies toward the conducting of evening and Saturday classes in order to make training on the job possible.

**Present and Future Problems.**—Associate Dean James K. Finch of the School of Engineering of Columbia University is quoted in *School and Society* (Dec. 5, 1942) in regard to present and future problems for engineering education. He expects additional decreases in the numbers of graduate students to the point where some engineering colleges will find it difficult, if not impossible, to continue graduate courses. He also anticipates that research in engineering colleges will be concerned primarily, if not solely, with war problems. The undergraduate engineering programs, which lead to the B.S. degree in engineering, enrolled fewer students during 1942 than during the previous year, and the author predicts that undergraduate engineering enrolments will within the next year or two level off at a minimum which will be maintained during the war. Much of the personnel and equipment of engineering schools may, according to Mr. Finch, soon be devoted to offering short, intensive, highly specialized, and technical instruction to young men who have just graduated from high schools, and to young women who have had one or more years of mathematics and physics on the college level. The young men who receive this intensive training will, in most cases, become members of combat units, while the young women will be employed in war industries. Engineering schools will have the opportunity when peace is declared to plan a program for filling in the gaps in the education of the thousands of young people who will have been given narrow, specialized training during the war years.



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### LEGAL EDUCATION

**Law Schools.**—The total law school enrolment in the United States decreased approximately 19 per cent between the fall of 1941 and the spring of 1942. It was estimated in December 1942 that enrolments at that time totaled about 72 per cent of the law school enrolments in 1938.

During 1942 the American Bar Association, on the recommendation of the Council of the Section of Legal Education and Admissions to the Bar, provisionally approved the Columbus University Law School of Washington, D. C. and the Northeastern University School of Law of Boston, Massachusetts. The American Bar Association withdrew approval from the School of Law of Southeastern University, Washington, D. C., which received provisional approval in 1941.

Thirty-eight schools offered summer work for the first time during 1942, and many others expanded already existing summer sessions. Many day schools arranged either a trimester or a four-quarter plan to make graduation possible after two or two and a quarter years of continuous attendance. Part-time schools arranged accelerated programs to permit graduation after three years of instruction. Some schools, which formerly required three years or a bachelor's degree for admission, have reduced their requirements for the college year 1942-1943.

The program of post-admission legal education has been continued in spite of the war and its attendant difficulties.

**Rules for Admission to the Bar.**—There are now only five states—Arkansas, Georgia, Louisiana, Mississippi, and South Carolina—that do not require, either now or in the early future, two years of college education, or its equivalent, as one of the prerequisites to admission to the Bar. The Supreme Court of Florida, on Dec. 9, 1941, took action to the effect that two years of residence college work, or the equivalent, and graduation from a law school approved by the American Bar Association, the Association of American Law Schools,

or the Supreme Court are required of all candidates for the examination for admission to the Florida Bar after Jan. 1, 1942, with some exceptions.

**National Conference of Bar Examiners.**—This organization represents the Bar examiners and the character committees of all the states. It continued to expand its character investigation service which investigates the moral character and reputation of migrant attorneys. Thirty-four states, the District of Columbia, and Hawaii were using this method by the end of 1942 to determine the previous record of attorneys leaving one jurisdiction and applying for admission to the Bar of another jurisdiction.

The Conference furnished the state boards of law examiners, the courts, and the law schools with facts in regard to the "emergency" orders and rules concerning admission to the Bar. During the participation of the United States in the First World War many states admitted to the Bar law students who had almost completed their courses of study and who had received diplomas at the time they were called into one of the branches of the armed forces. Evidence to date indicates that states are making careful analyses of the total situation before lowering any of the requirements for a license to become a member of the legal profession.

The knowledge that standards in other states are being maintained helps to prevent the reduction in requirements in any particular state. Three agencies—the American Bar Association Section on Legal Education and Admission to the Bar, the Association of American Law Schools, and The National Conference of Bar Examiners—are striving together to ensure that standards will be supported and future lawyers will have been provided with an adequate legal education.

The chairman of the Conference is John Kirkland Clark of New York; secretary, James E. Brenner of California, and chairman-elect, Wilbur F. Denious of Colorado.



**MEDICAL EDUCATION**

**The Accelerated Program.**—The need for a larger number of well qualified physicians is being met by accelerated programs which have been adopted in all but four medical schools. In most of the schools the former four-year medical course is now completed in three years. Fifty-three schools have revised their schedules to make possible both the acceptance of entering students and the completion of graduation requirements of a class every nine months. Ten schools are starting a new class once a year but are graduating a class every nine months for the next three years. One school is using the four-quarter plan, whereby students may be admitted and graduated four times a year. These accelerated programs are made possible by eliminating most of the former vacation periods and shortening the few that remain. The medical curriculum has not been abbreviated in content.

**Medical Licensure.**—Forty-one states, the District of Columbia, Alaska, and Puerto Rico now admit to licensure graduates of recognized medical schools who have followed an accelerated program. The present laws in seven states will have to be amended or repealed in order that graduates of the accelerated course may receive licenses.

Medical examining boards examined 7,511 persons during 1941, and 19.7 per cent failed to pass. The number examined does not represent that many individuals, as one may attempt to pass the examination in more than one state and be counted in each state. The percentage of all candidates examined in 1940 who failed to pass was 20.7. The percentage of failure was higher among graduates of Canadian schools than among graduates of schools in the United States, and almost 60 per cent of those who had received their training outside the United States and Canada did not pass.

Eighteen states have ruled that candidates possessing foreign credentials are not eligible for licensure, and one state has not accepted such ap-

plications since Feb. 21, 1941. Foreign credentials include all those from countries other than the United States and Canada. Seventeen states, Alaska, Hawaii, and Puerto Rico require that candidates be citizens of the United States, and ten states will not permit an applicant to attempt the state board examination unless he has received his first naturalization papers. Several other stipulations have been made by varying numbers of states. One of the most widely adopted is the requirement of a one-year internship in an approved United States hospital, which is found in 16 states, Alaska, Hawaii, and Puerto Rico.

**Preliminary Education.**—The Council on Medical Education and Hospitals of the American Medical Association published the annual list of approved colleges of arts and sciences which comprised 719 institutions recognized by certain selected national and regional educational associations. Only seven of the 77 medical schools in the United States now require less than three years of college work of students applying for entrance, and these seven have a two-year requirement. Only 1.2 per cent of the students admitted at the beginning of the academic year 1941-1942 offered less than three years of college preparation for entrance to medical school. Four medical schools require the baccalaureate degree as one of their admission requirements, and 44 of the state licensing boards insist on two years of college education before the beginning of the medical course.

**Internship.**—Nine medical schools in the United States include the internship as one of the qualifications for the M.D. degree, but 22 states, Alaska, the District of Columbia, Hawaii, and Puerto Rico require the hospital internship of all applicants for medical licenses. Six schools have discontinued the internship requirement since 1940, and the accelerated curriculum and the need for graduates in the military service may encourage more to do so during the war emergency.

**Enrolment and Graduates.**—The

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enrolment in the medical schools in the United States for the academic year 1942-1943 is estimated to be 22,674, while it is reported that 22,031 students were enrolled in the previous session 1941-1942. The number of graduates in 1942 was 5,163, while there were 5,275 in 1941. This decrease of 112 is due to the fact that two schools discontinued the internship requirement in 1941 and thereby granted more than the usual number of degrees. The number of graduates in 1940 was 5,097. It is estimated that the accelerated program will make possible the graduation of 21,029 students during the next three years. It is also estimated that, taking into consideration the deaths of physicians during recent years, more than two physicians will be graduated for each one who dies.

The number of women receiving the medical degree in 1942 was 279, and the number of women studying medicine for the year 1941-1942 was 1,164. Women graduates in 1942 constituted 5.3 per cent of all graduates in medicine in the United States.

### Improvements in Medical Schools.

—Military medicine, first aid, tropical medicine, industrial medicine, and the study and treatment of war wounds are subjects that have been added to the curriculum in many schools. Six schools have made important changes in preclinical departments to provide better facilities for research and teaching, while eight schools report improvements influencing clinical teaching. Twelve schools have found it possible to increase their budgets substantially, and the aggregate annual increase is \$424,874.

**Loan Funds and Scholarships.**—The W. K. Kellogg Foundation made grants of \$10,000 to each medical school in the United States to be used for scholarships and loans as the individual school may choose. Payments on loans from these funds will be made to the school concerned, and thus the funds may be used over and over again. Congress has made available \$5,000,000 to be loaned to medical students and other technical and professional students seeking to secure

training in their respective fields by studying in an institution having an accelerated program.

## NURSING EDUCATION

**War Service.**—The urgent need for nurses to serve in the military forces, civilian hospitals, and other agencies has stimulated both Federal agencies and professional organizations in the field of nursing to concentrate their efforts on accelerating the education of nurses. Congress appropriated \$3,500,000 for the school year 1942-1943 for the training of nurses. In 1941-1942, \$2,400,000 was appropriated. The States Relations Division of the United States Public Health Service has charge of the administration of these funds. The principal beneficiaries are nursing schools that offer the basic course, although the appropriation may be used to increase the enrolment of registered nurses in post-graduate courses and for the establishment of refresher courses, as well as for increasing the enrolment of student nurses in basic nursing programs.

The National Nursing Council for War Service has encouraged the acceleration of nursing education. Three plans have been proposed. One of them condenses all the essential courses, including nursing practice, into a period of 30 months, making possible the assigning of the student to additional supervised nursing practice during the last six months of the training period. The second plan provides a 28-month program for students who have already had two or more years of college work, and who are also qualified because of aptitude and demonstrated ability. In states where the law permits, students following this plan are to be graduated at the end of the period. Plan No. 3, which is for mature students who have completed four years of acceptable college study and are qualified because of aptitude and demonstrated ability, is based on a period of 24 months. In the states where the law permits, these students are to be graduated at the end of the two years. The National League of Nurs-

ing Education is assisting nursing schools in the implementation of these three plans. If the war emergency becomes more serious it may be necessary to alter these plans to provide for further acceleration.

The National Nursing Council for War Service, through its Recruitment Committee is seeking to increase the number of new students enrolled in schools of nursing during the school year 1942-1943 so that a total of 55,000 will be reached. The Council is receiving assistance from the U. S. Office of Education and from the Sub-Committee on Nursing of the Health and Medical Committee of the Office of Defense Health and Welfare Service. The U. S. Office of Education has prepared a monograph entitled, "Professional Nurses are Needed," which is planned for use in high schools to encourage more students to undertake nurses' training.

The number of registered nurses serving with our troops in this country and in foreign lands has now reached the total of approximately 20,000. As more and more nurses go into military service the problem of fair distribution of the services of the remaining civilian nurses becomes of great importance. Supply and distribution committees have been organized by local nursing councils in 23 states to assist in the solution of the supply and demand problem; while 30 state nursing councils have organized supply and distribution committees.

**National League of Nursing Education.**—The Board of Directors of The National League for Nursing Education formed a Committee on Educational Problems in War Time, which met in May 1942. The Committee is cooperating with nursing schools by obtaining information from them in regard to their most difficult problems and is helping in their solution through the publication of a new bulletin entitled, "Nursing Education in War Time." The National League of Nursing Education and the Association of Collegiate Schools of Nursing organized a conference of college and university

administrators and nursing educators under the auspices of the American Council on Education. The conference was held in New York in January 1942. One of its accomplishments was the publication of three documents: one a report of the conference, another a vocational pamphlet for college counsellors, and the third "A Guide for the Organization of Collegiate Schools of Nursing." The vocational pamphlet is entitled "Professional Nursing and Auxiliary Services," and is published by the Nursing Information Bureau in New York.

**National Nursing Inventory.**—According to the "National Nursing Inventory" there were 289,286 registered nurses in the United States in 1941. Seventy-five thousand of these were considered to be eligible for military service in 1941, and more than 25,000 of them were at that time inactive but available for full-time work. The majority of the registered nurses actively engaged in nursing were working in institutions—approximately 81,700. Almost 47,000 of them were private-duty nurses, and approximately 17,800 were engaged in public health work. The number of nurses graduated in 1941 was 25,875, or 2,235 more than were graduated in 1940. The number of students enrolled in nursing schools in 1941 was 87,588, while the latest estimate available for 1942 is 91,000.

**Tuition Scholarships.**—The Federal appropriation mentioned at the beginning of this statement provides that qualified, needy students may receive scholarships of tuition and other entrance fees if they are enrolled in eligible schools which have increased enrolments during the school year 1942-43 in comparison with those for 1940-1941. Federal funds may also be requested by such schools to pay for the cost of housing, food, and laundry for first-year students for a period of not greater than six months. These schools may also request tuition scholarships for second-year students who are in need of them. Eligible schools which can not increase enrolments for 1942-1943



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over those during 1940-1941 may, nevertheless, request Federal funds to provide scholarships for payment of tuition and other fees for well-qualified but needy applicants.

### EDUCATION FOR PUBLIC ADMINISTRATION

**Committee on Public Administration.**—This committee of the Social Science Research Council did not publish a new edition of "Educational Preparation for Public Administration" in 1942. The last edition published, for 1941-1942, lists 80 colleges offering a major, or special program, for those seeking training for public administration. Bard College, residential unit of Columbia University, will establish a School of Public Affairs beginning June 1943. This school will include a course of study and practical field work in the areas of administration and research. It will be for undergraduate students concerned with the interests of labor, business, and government. The staff will consist of professors of sociology, psychology, history, economics, and government. In addition, administrators and other authorities will enrich the program by serving as lecturers and discussion leaders.

At least two institutions—Columbia University and the University of Michigan—are offering some opportunities for those interested in the field of international administration. Problems in law, politics, economics, and government will have to be worked out in a cooperative fashion if we are to cope successfully with the post-war world. The training of individuals to comprehend these problems can not be accomplished in a matter of weeks, so it is desirable and necessary to begin it months and even years before the end of the war.

The war emergency has increased the demand for trained administrators, and in many fields the demand exceeds the supply. Federal funds were available in 1942, as they were in 1941, for the organization of courses in management. While management is only one of the many aspects of

administration, it is an important area.

**National Institute of Public Affairs.**—This Institute is continuing its internship program, which provides for "learning on the job" by a combination of work and study. Since the Institute is located in Washington, D. C., it is possible to combine work in a government department with study and discussion under the leadership of well-qualified teachers. Many colleges and universities, offering work in public administration, have desired to make use of the internship plan, but have found difficulty in making arrangements for this type of experience for their students. The University of Wisconsin carried on such a program for several years.

**Military Government.**—The Federal Government during 1942 established one or more schools for the training of selected individuals in military government. It is thought that the individuals completing the course will be qualified because of past training, experience, and the special course to exercise intelligent leadership in the occupation of certain countries at the termination of the war.

### TEACHER EDUCATION

**Enrolments.**—Statistics concerning enrolments in teacher education programs in the fall of 1942 indicate that in most instances there was a decided decrease in comparison with the fall of 1941, this despite the fact that many states reported at the same time teacher shortages, especially in rural areas. While it is true that there are still some licensed teachers who are unemployed, many states have found it necessary to issue emergency licenses or certificates based on lower educational standards in order to fill teaching positions. The shortage of teachers is especially serious in rural schools owing to the fact that the salaries offered in rural communities are low in comparison with those paid by war industries and by city school systems. Increased living costs, transportation difficulties, and lack of suitable living conditions are



other factors which have helped to bring about a high rate of turnover in rural teaching positions. Some states are already employing hundreds of teachers holding temporary or emergency certificates. As was true a year ago, shortages are especially prevalent in industrial arts, physical education, and business education. Properly qualified mathematics and science teachers are becoming difficult to find in many states.

**Certification of Teachers.**—A recent circular by Benjamin W. Frazier, senior specialist in Teacher Training in the United States Office of Education, points out some of the present trends in certification. Regular certificates are issued on three different bases—college credentials, examinations, and exchange with out-of-state certificates. Forty states have minimum age requirements ranging from 17 to 20 years, and 31 of these states have set the minimum age as 18 years. Twenty-four states make some attempt to obtain proof of good health, and 21 states insist that the applicant either be a citizen or declare his intention of becoming a citizen. While 11 states and the District of Columbia require four years of college work before the individual will be granted the lower-grade regular elementary certificate, 10 states are still granting certificates to individuals who have graduated from high schools or who have passed an examination even though they have not completed their high school work. These trends are based upon replies which were sent to Mr. Frazier by the certification departments of 46 states.

**College Teachers.**—It is estimated that between September 1941 and September 1942 about 8,000 teachers left colleges and universities. It is thought that this loss during the academic year was probably as much as 5 per cent of the total teaching personnel. Although the reason is not known, seemingly the losses were greater in the state and municipal colleges and universities than in private and church-controlled institutions. In many instances teachers are being asked to teach in some field

other than that in which they are especially qualified. This has enabled many institutions to continue their programs without terminating the appointments of individuals working in departments where enrolments have greatly decreased. It was reported in *The New York Times* on Nov. 7 that 50 colleges had closed. While this is not a large number of institutions in comparison with the estimated 1,717 institutions of higher learning in the United States, it is important because, with the present teacher shortages growing more acute, many types of institutions are needed to train teachers for both the public schools and the armed forces. Teachers are being utilized by the Army and Navy as civil service employees, enlisted and commissioned members of the armed forces, and civilian employees of colleges and universities where a contract has been made for civilian teaching staffs.

**American Association of Teachers Colleges.**—The Minimum Standards for Accrediting Teachers Colleges and Normal Schools were revised in February 1942, and a new statement was included in regard to the annual publication of a list of accredited institutions. This statement is to the effect that institutions may be included on the accredited list even though deficient in some of the minute details of any Standard, provided they present evidence that the institution as a whole warrants accreditation. It also includes the fact that satisfactory improvement on minute details of any Standard in which the institution is deficient must be made from year to year. The accredited list of the American Association of Teachers Colleges for 1942 includes the names of 173 institutions.

#### THEOLOGICAL EDUCATION

**The American Association of Theological Schools.**—Dean Edward H. Roberts of the Princeton Theological Seminary has supplied the facts for this statement on theological education. The Biennial Meeting of the Association was held in June 1942 in Rochester, N. Y.

## EDUCATION FOR THE PROFESSIONS

### **Military Training and Service.**—

On June 22, 1942 the Selective Service System issued as *Occupational Bulletin No. 11* an official release on the subject of pre-theological students. This release included the following information: regular or duly ordained ministers of religion and students preparing for the ministry in theological or divinity schools are exempt from training and service in the military forces; a registrant pursuing academic studies for the ministry in a recognized university or college may not be considered for deferment until the end of approximately the conclusion of his second or sophomore year; two certificates are required if the registrant is pursuing a course of academic study as prerequisite to entering the recognized theological or divinity school—one from the theological or divinity school, that he will be accepted and enrolled in it, the other from a recognized church, religious sect or religious organization, stating that the registrant is under the direction and supervision of that group.

**Enrolments and Recruiting.**—The need for increased numbers of theological students is due partly to the fact that chaplains are considered essential men in the Army and Navy. The Federal Government has increased the proportion of chaplains so that they desire one for every 1,000 or 1,200 men, rather than one for every 2,000 men as was formerly the case. No statistics are available, but probably more than 2,000 ministers have already gone into the service as chaplains. Since there was in many denominations a shortage of ministers at the time the war began the enlistment of the ministers as chaplains has augmented the shortage.

The committee concerned with the problem of recruiting is more interested in quality than in numbers and seeks to find outstanding men who will study for the Christian ministry. The war will influence the number of students going to college, and some men who have already decided to study for the ministry will be delayed in their preparation or caused to

change their minds by their war experience. Others, of course, may be encouraged to enter the ministry by their experiences in the armed forces. It is suggested that the local church can do a great deal to help with the problem of recruiting, and that within each denomination there should be a board charged with the duty of encouraging promising young men to enter the ministry. It is also thought that a more adequate conception of the ministry should be given to all young people, in order that some of them might be influenced to choose the Christian vocation.

### **TRAINING FOR SOCIAL WORK**

**Schools of Social Work.**—The membership list of the American Association of Schools of Social Work was revised in May 1942, and on June 1, 1942 it included 42 schools. Thirty-five of these schools have a two-year course, while seven have a one-year program. On Nov. 1, 1942 there were 5,025 students enrolled in the 42 schools mentioned above. The number of students majoring in social work was 4,192 of which 3,700 were women and 492 were men. On Nov. 1, 1941 there were 5,756 students enrolled, and 4,886 were majoring in social work. There were 320 students who were not enrolled as of Nov. 1, 1942 but who were working on theses under the direction of one of the member schools. During the autumn term of 1941, the spring and summer terms of 1942, 1,276 students majoring in social work received degrees, diplomas, or certificates.

**Trends.**—The above statistics indicate that enrolment in the accredited schools of social work has been decreasing at a time when the need for professionally trained social workers is increasing. It is estimated that there are now positions available for approximately 10,000 men and women with the proper training. One of the types of positions for which trained individuals are needed is that of worker in child-health stations, day nurseries, and play schools. Other types of positions are social case-workers, supervisors, and executives in

## XXVII. EDUCATION

the social agencies, organization specialists, group workers, and workers in public-welfare administration.

The social agencies in many sections of the United States may have increased work to perform as more and more men with families join the armed forces. Some of the services which are provided by social workers are child welfare, family welfare, old-age assistance, probation and parole, recreation, social research, state and Federal social service bureaus, and centers for men in the Army and Navy. Prof. R. Clyde White of the

University of Chicago estimates in an article in *School and Society* (Aug. 29, 1942) that there are probably 150,000 social work positions in the United States if the social insurances are included. He also states that less than half the persons in social work positions are trained. Professor White mentions that the salaries of professionally trained social workers are similar to those of high school teachers (\$1,500 to \$1,800 a year) and that they probably spend a little more time in getting their professional education.

### VOCATIONAL EDUCATION\*

By L. H. DENNIS

EXECUTIVE SECRETARY, AMERICAN VOCATIONAL ASSOCIATION, INC.

#### GENERAL

The main developments or modifications in America's program of public vocational education during the year 1942, largely came about as a result of an effort to adjust the program to meet developing war needs and war situations. Practically all the vocational education programs previously developed have continued in operation, and enrolments in the same have materially increased. In addition to the regular program, new special programs designed to meet wartime needs of various groups and occupations have been quickly developed and carried through.

#### INDUSTRIAL EDUCATION

There were so many important developments in the field of industrial education during the year that it is difficult to select those which have the major importance. The trade and industrial schools of the nation have been contributing in a very tangible fashion to the war production effort, and it is important that the training programs be dynamic and quickly modified to meet the changing de-

mands of the war production industries.

The following important developments occurred in the war production training program during the year, and there is a possibility that the effect of these developments will continue into the post-war era and thereby affect the whole character of the trade and industrial training program.

#### TRADE AND INDUSTRIAL TRAINING FOR WOMEN

The expansion of training programs for women in the trade and industrial field has been very rapid. The training of women for trade and industrial occupations in the unit trade schools of the state and the nation is not new. For some years, many of the larger industrial states have maintained a program for women in the light manufacturing fields in which the activities were largely the operation of small machine tools and the assembly of light pieces of equipment and the inspection of parts. With the depletion of manpower in the war production efforts through the Selective Service processes, the employers are beginning to utilize women to a larger degree in the war production program than ever before, and during the past six months, women have been trained

\* Many state leaders of vocational education supplied information which was used in the preparation of this article. Acknowledgment is hereby made for this valuable assistance.

## VOCATIONAL EDUCATION

to operate machine tools of the heavier type, and to the surprise of the male supervisors, women operate this equipment as effectively as do men. Women are being used to assemble the heavier pieces of war equipment, and in one war production plant, women are engaged in the assembly and inspection of the largest types of aircraft engines. This is a job which requires accuracy and good work habits. Women are now being trained to do electrical maintenance and repair work on war production equipment, the adjustment of control apparatus, the maintenance of motors, and replacements of parts. This is a field in which women were never employed previously. The field of shipbuilding which, at one time, was regarded as being distinctly a man's field, is being opened up in some phases to women employees. Welding, also, is regarded as a man's job, and now women are being engaged in this activity, and the industries of the nation, in the all-out war effort, need more woman power.

### **INSTRUCTOR TRAINING OF FOREMEN**

Another outstanding development in the field of industrial education during the year was the instructor training program which has been organized for the foremen in war production industries.

### **JOB SIMPLIFICATION**

Another development that is likely to have an important effect upon the future trade and industrial programs comes about because of job simplification which is necessary to secure the maximum production in the war effort. Some of the highly skilled jobs such as that of the tool and die maker have been broken down into simplified units, and persons are being trained to carry out specific phases of the simplified job practices.

### **INSTRUCTIONAL PUBLICATIONS**

Schools do many unorthodox things, in contrast with the past, in an effort to meet specifically and directly the needs of all. Men from industry, with

no previous teaching experience, are taken by the thousands into the public schools and are quickly prepared to teach the trainees needed for industry. Instructional materials are developed, closely following analyses of the specific jobs to be done. Thus, in a relatively short time, many new books have been written. Notable among these books is *Shipfitting Practice*, of which approximately 100,000 copies have been distributed within one year's time. In Pennsylvania alone, more than 35 books and pamphlets were written within a year.

### **TRADE EXTENSION APPRENTICE PROGRAMS**

One of the industrial states, Michigan, was called upon to produce a large percentage of the guns, tanks, planes and ships with which to win the war. This meant a big increase in the need for patterns and in tools and dies which could not be met by the skilled men available. To meet this need several new trade-extension apprentice programs have been organized in the field of pattern making and tool and die making.

### **ELECTRIC LINEMEN TRAINING**

With the expansion of rural electrification came the need to upgrade the large number of inadequately trained linemen with little experience with high-voltage work. With the co-operation of R. E. A. Cooperatives, linemen were given instruction in vocational training centers. The improvement in service rendered is reflected in a drop in the accident rate, and should result in improved service to the farmer whose work will be materially lightened at a time when he is called upon to produce more for the war effort.

### **REQUISITION OF SCHOOLBOYS**

One of the most interesting developments of the war period is the organizing and training of groups of high school boys in the Los Angeles area for part-time work to take the place of men called for military service. The Vocational and Practical Arts Section of the Los Angeles city



schools is cooperating with the Southern California Gas Company in organizing groups of boys to work as meter readers after school hours and on Saturdays. Training programs are being set up in a number of senior high schools. The Forestry Service also has called for help because of the shortage of manpower. Seventeen senior high schools near the mountain area have organized forest fire fighting corps, and will be available for duty in case of major fires. The Forestry Service trucks will pick up the groups at the schools. The boys will be paid for this service. Other groups have been organized to do home garden and maintenance work after school hours. The work was formerly done by Japanese, who have been evacuated from this area.

The woodworking courses in the secondary schools have been modified to meet the demands of organizations participating in the war effort. The building of equipment for the Red Cross and Civilian Defense organizations and the construction of model airplanes for the Navy, have modified the program.

Courses in automobile operation, maintenance and road repairs for women ambulance drivers have been organized in a number of the evening schools.

A new major in high school has been developed, the Aeronautics Curriculum. This program affords eleventh and twelfth grade high school boys an opportunity to receive specialized training that will prepare them as pilots, bombardiers, gunners and navigators in the Army and Navy Air Corps, airplane mechanics and maintenance men, radio electricians, and aerial photographers.

#### **INDUSTRIAL ARTS EDUCATION**

The general situation in so far as industrial arts instruction in the public schools is concerned is that of uncertainty, of difficult administrative problems, and of rapid development. Some schools report very large enrollments, while others are discontinuing courses because of inability to find teachers. The general emphasis upon

industrial training throughout the nation would undoubtedly result in an unprecedented expansion of the industrial arts activities if teachers, materials, and equipment were obtainable.

Industrial arts shop classes throughout the nation have been working with high enthusiasm during the year on the airplane model project which was initiated by the Federal Government. The response from most schools was enthusiastic, and the work done reflects a high standard of attainment in the departments participating. Many schools are working on other projects of value in the war effort of the nation.

There is a serious shortage of teachers, and this situation is growing worse by the day. Some draft boards have failed to understand the importance of keeping the school shops and drafting rooms running at high efficiency. If the war proves to be a long one, this unwise policy will prove to be a most costly one. Likewise, school boards have not seen the need of raising salaries to keep trained teachers, and many teachers have left to take better paying jobs in industry and as teachers in Army and Navy schools.

#### **AGRICULTURAL EDUCATION**

The growing recognition of the importance of training out-of-school youth and adults is one of the important developments that took place in vocational agricultural education during the year.

It appears that it may well be that 1942 will mark the turning point in the emphasis of vocational agriculture from a pre-vocational training program of high school pupils to a vocational program for out-of-school youths and adults.

Farmers, beset by wearing of machinery, shortage of farm labor, limitation of supplies and fertilizers, have looked to the vocational agriculture department for guidance and help. In many counties where vocational teachers have taken over the seasonal farm labor placement problem, farmers say frankly that crops could not

have gone to our armed forces and civilian needs without this help.

In Georgia and a few other southern states the most significant development in vocational education in agriculture has been that of establishing food processing centers for use of farm families. There are now more than 1,000 such centers in the South, owned and operated by public schools served by vocational agricultural teachers. These processing centers include canning plants, freezer locker plants, and dehydration plants.

In Georgia alone more than 10,000,000 cans of meats, fruits, and vegetables were produced during the calendar year. The schools purchased co-operatively 130 carloads of cans. Plans are now under way to establish a large number of dehydration plants.

The vocational agricultural teachers throughout the South have been of tremendous service to farmers in repairing farm tools and implements. In Georgia 38,000 farmers use the facilities of 400 school shops. Thousands of pieces of farm tools and implements were repaired. Many of these tools could not be replaced.

Future Farmers enrolled in vocational agricultural classes have aided materially in the nation's war effort. Millions of pounds of scrap metal and rubber have been collected, and thousands of dollars have been used in the purchase of war bonds.

## HOMEMAKING EDUCATION

The two outstanding developments in the field of homemaking education during 1941-1942 were (1) increase in the number and improvement in the character of home projects carried on by day school students, and (2) increase in the number of adults and out-of-school youth reached in homemaking classes and the improvement in methods of teaching and content of courses for out-of-school groups. Both of these developments were undoubtedly stimulated to a great extent by interest in and effort toward cooperation with the national war effort.

Home projects in consumer buying, home care of the sick, selection, care,

construction and renovation of clothing, the renovation and conservation of home equipment and furnishings showed a great increase in numbers over the previous year.

Before Pearl Harbor, conservation was emphasized in foods and clothing units throughout the country. Since then, proper use and care of household equipment and other furnishings have received greater attention in vocational homemaking departments in addition to greater emphases on rationing, substitutes, and wartime employment as related to units studied.

Two or three levels of home nursing are being offered in many schools because girls in the various grades of homemaking are asking for this as part of their high school work. Students are taking nutrition more seriously for themselves and for their families, as evidenced by the keener interest in class work and the increase in this aspect of home projects on personal improvement and family meals.

More boys are being admitted to classes, and more than can be accommodated are asking for the work. Young men in service are reporting that in the short time spent in a homemaking class or exchange units the work has contributed to their success in the commissary department.

## DISTRIBUTIVE EDUCATION

The distributive education program has experienced a phenomenal growth during the past two years. A large part of this expansion is the result of the present national emergency. Retail establishments, facing a tremendous turnover in personnel and competition with higher salary businesses, are looking forward to better trained personnel as the answer to their problem. Also, the many new Federal regulations in regard to the conduct of retail business has necessitated the conduct of innumerable courses and clinics for retail management. Retail and wholesale businesses of Texas are demanding greater services in this field of work. Further expansion of the needed services to this group can

not be had without additional funds being made available.

Distributive education is directly concerned with our American economic system. Even before the declaration of war, it was apparent that this program would be in a position to render a fine service to businessmen in a changing economic system. The acceleration of the program and the great increase in numbers of classes and enrolments has been a natural result of the program having been regeared to meet merchants' problems during a wartime economy.

#### BUSINESS EDUCATION

Business education was characterized during 1942 by a specific return to the fundamental objectives of business education, namely, vocational preparation. For many years business education was considered purely vocational, but with jobs almost entirely unobtainable for the high school graduate since 1929, there was an attempt to justify business education almost solely for its general education values, with the result that job preparation became secondary in many schools.

No one would, of course, say that it was not one of the functions of business education to give general education, but this general educational point of view has not been in the minds of most young people who have been enrolled in the shorthand, typewriting, bookkeeping, and merchandising classes of the high school regardless of the theory on which the schools operated. At present, with the marked shortages of office workers due to their being pulled out of offices into more remunerative types of work, the business teachers of the country are bending their efforts toward making their teaching more functional and more definitely that of preparing young people for jobs.

Another important development has been the extension of cooperative training programs not only in the field of distributive education but also in the field of office occupations. This is a very important trend and one which should be encouraged so that when we are able to return to peacetime activities the schools will be well established in this type of vocational preparation.

#### ADULT EDUCATION

BY J. O. KELLER AND H. G. PYLE  
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##### GENERAL

This decade may well see an expansion of instructional facilities and services on the adult level to unprecedented heights. From present indications the country is ready for a sound, constructive program of adult education supported by government subsidies, Federal, state, and local, and acknowledged as a legitimate function to be performed by our educational agencies, and embodying the best principles of pedagogy. It is evident that the war has hastened this development. It is a simple case of a need for learning "much in a little time." Adult education programs

with some exception, mirror the interest and the needs of the times and of those whom they serve.

It is true that the winning of the war will depend to a large degree upon a high level of informed intelligence and of developed skills. Through the adroit use of educational forces, equally available to devil or saint, Germany during six short years prepared for the struggle which was to bring a large part of Europe under her control. The winning of the peace must likewise depend in large measure upon the social intelligence with which post-war problems and their settlement are approached, and the support given such

## ADULT EDUCATION

carefully-formulated plans by an informed democratic people.

Significant trends of the current year must include the great vocational training programs put into operation largely under the direction of the Federal Government (for which Congress appropriated \$140,000,000) but carried on by public schools, by the colleges and universities, by industry, and by the armed forces. As the year closed, women were being enrolled for such instruction in rapidly increasing numbers.

To a lesser extent provision was made for adult education agencies to carry on attitude-building programs which would promote the war effort, including perforce certain others not to be overlooked and designed to foster closer ties with our South American neighbors, to break down race prejudice, and to cement improved relationships with others of the United Nations. Thus our enemies and our allies, become known to us and fundamentals in our own institutions are studied.

Prominent, too, were educational programs arranged to teach the civilian population measures for self-defense. Local civilian defense councils (12,000 in number) organized classes for air raid wardens, auxiliary fire fighters and police, and for the medical and other protective services. Complete registration figures are not yet available on the thousands of classes formed in nutrition, first aid, home nursing, consumer protection, blackout driving, and the like. It became popular for hundreds of thousands of persons of all ages to return to school and study. Certainly if these adult education measures were essential to an informed war effort, similar programs on a large scale might prove desirable in the days of reconstruction. The problems of post-war planning are being publicized and studied by increasingly larger numbers of adults. Both public and private agencies are contributing study and discussion materials.

There were other events of major importance. The Civilian Conserva-

tion Corps was abolished as of June 30, 1942, and the President issued an order dissolving the Work Projects Administration as of Feb. 1, 1943. The Army Institute was set up to offer, by correspondence instruction, a large variety of courses to our soldiers in all parts of the world. This agency was later enlarged by agreement so as to serve the Navy, Marines, and Coast Guard personnel. Never before had the Federal Government initiated or subsidized on such a broad scale so many varied adult education programs making use of existing established agencies.

One final trend deserves mention before specific developments in the whole field are recounted. Signs appeared of what may develop into a broad program of workers' service and education. To date this need had not been met except by the WPA Workers' Service program. With organized labor now numbering over 10,000,000 persons there are indications that adult education programs might be organized specifically to meet labor's needs.

### WAR MANPOWER COMMISSION

As the war progresses and the administration of the manpower problem becomes more centralized, the War Manpower Commission is taking steps to coordinate the training services offered by various agencies. The principal programs for war production and agricultural workers, according to W. W. Charters, chief of WMC's training division, include the following: (1) Training-Within-Industry Service; (2) Apprentice Training Service; (3) Vocational Training for War Production Workers; (4) Vocational Training for Rural War Production Workers; (5) Engineering, Science, and Management Training; (6) National Youth Administration; and (7) The United States Employment Service.

These agencies offer six kinds of training for employed war workers: (1) for production operators; (2) for skilled production specialists; (3) for all-round skilled mechanics; (4) for



engineers, chemists, physicists and their assistants; (5) for plant administration and production supervisory personnel and their assistants; and (6) for trainers and supervisors of training. Pre-employment training is also offered for production operators and for engineers, chemists, physicists and their assistants.

Dr. Charters estimates that enrollment by the several agencies (without duplication) from June, 1940, to September, 1942 reached a total of 5,940,433 persons.

### TRAINING BY INDUSTRY

In order to train workers more rapidly for specific jobs, many industries have set up or enlarged already existing plant schools. The large aircraft companies such as Douglas, Grumman, Republic, and others have established such schools. The Ford school, the General Electric school, and schools conducted by the Aluminum Company of America, Baldwin Locomotive, and other manufacturers have been established or enlarged. Henry Ford's school has grown enormously, for in it now is a special school for the Navy, with 6,000 men trained this year; the Ford Aircraft Engine school with 4,000 trainees, a Ford Airplane school for more than 1,000 men; 14,000 students all together under nearly 500 instructors.

In the in-plant training field the Training-Within-Industry and the Apprentice Training services of WMC give assistance and advice. Field staff members help to determine training needs, to set up programs, to furnish data on results, and to recommend most effective use of tax-supported training agencies. The Training-Within-Industry service, having certified 335,000 "trainers" by the end of 1942, conducts these supervisory training programs: (1) job instructor training; (2) job methods training; (3) job relations training; (4) training of training directors. About \$1,145,000 of Federal funds are allocated to this program for the current fiscal year with an additional \$915,000 for the Apprentice Training program.

### DEFENSE TRAINING

In the fiscal year 1941-42, 1,584,990 persons registered for pre-employment and refresher courses and 1,512,953 persons for supplementary training, approximately 85 per cent of whom were classed as adults. Many of these courses were carried on in school districts where no trade and industrial work formerly existed.

Vocational schools cooperated with the armed forces in training enlisted and civilian personnel. Trainees in the ordnance department in Springfield, Mass., for example, were taught to operate mobile shop units used in the field for minor repairs. At the Coast Guard center in New York City courses in water tending, boat building, marine electricity, and plumbing were given. Chicago schools cooperated with the Navy Pier at Lake Michigan in classes for machinist's mates; and courses for welders were offered in the large ship-building centers. In machine tool manufacturing centers courses in screw machine set-up, and turret lathe and boring mill operations were offered. In Detroit, automobile manufacturing plants and public schools cooperated in a large conversion training program. Courses in aircraft manufacturing and servicing and in Signal Corps operation were given elsewhere.

At the close of the fiscal year 1941-42, 118,000 women were enrolled in pre-employment defense training courses. They were trained for work in aircraft industries, arsenal work, boat building, sheet metal work, radio assembly and repair, instrument testing and assembly, machine tool work, and in parachute repair and folding. They were trained for the Signal Corps air depots, Naval air bases, Navy yard, and ordnance work.

### OUT-OF-SCHOOL YOUTH PROGRAM

In the Out-Of-School Youth program carried on in rural areas, in local blacksmith shops, general repair shops, local garages, implement dealer's shops, and elsewhere, 321,500

## ADULT EDUCATION

were enrolled. They were taught: (1) operation, care and repair of tractors, trucks and automobiles; (2) metal work; (3) woodworking; and (4) elementary electricity.

### REGULAR PROGRAM OF VOCATIONAL SCHOOLS

Approximately 798,000 were reached by regular classes for adults in 1941-42. In vocational agriculture, 218,684 were enrolled; in trade and industrial, 81,868; in home economics, 295,716; in distributive education, 202,456.

In the agricultural program, production of proper crops and the construction and repair of farm tools and machines were stressed. In home economics education 6,000 teachers provided instruction for 400,000 adults and out-of-school youth in nearly 5,000 communities. Classes in home nursing, nutrition, consumer education, clothing, interior decoration, parent education, and child care were among those conducted. In distributive education new store workers were taught and courses were offered in war regulations affecting retailing, and in store supervision. Under the public service training program many classes of national, state and local government employees received training.

### ENGINEERING, SCIENCE, AND MANAGEMENT TRAINING

On July 1, 1942 the Engineering, Science, and Management Defense Training program became Engineering, Science, and Management War Training. As early as October, 1940 short courses of college grade designed to meet the shortage of professional and sub-professional engineers were offered by colleges of engineering in the Engineering Defense Training program. EDT became ESMDT on July 1, 1941. At the time of Pearl Harbor, EDT and ESMDT had trained 252,000 persons at a cost of \$13,900,000. Of these persons 4,500 were women.

To the program the war brought increased demands of the armed forces for college-trained personnel, espe-

cially in radio communications and electronics; a noticeable increase in the industrial accident-frequency rate, with a greater demand for courses in industrial safety; a greater demand for women and older men with appropriate training; and a need for large-scale retraining of dislocated workers. Congress, to meet this demand, voted an additional \$3,000,000 on April 24, 1942. At the end of the 1941-42 fiscal year proposals had been approved with costs estimated at \$20,300,000 and an enrollment of 438,000 by the 196 participating colleges and universities. For the fiscal year 1942-43, Congress appropriated \$30,000,000 for this program. Although these courses were on the college level it was not expected that they would embrace the same subject matter as courses in regular academic curricula. They were short courses of approximately 12 to 16 weeks duration. A few graduate courses were offered, such as those in ultra-high frequency techniques, vibration mechanics, Diesel engineering, and others. In-service courses were frequently offered to the employees of a particular company. Occasionally the U. S. Office of Education took the initiative in requesting properly equipped colleges and universities to offer courses in certain areas. Several courses were offered exclusively for the Army and Navy in technical fields in which the armed forces had no facilities for their own training.

The main purpose of the program, however, was to train civilians for employment in war industries. Most of the courses were conducted as part-time training. Of the 600,000 trainees estimated as having enrolled in the calendar year 1942, 95 per cent were in part-time courses. Participating institutions were urged not only to increase the enrollment of women wherever possible in existing courses, but also to organize courses especially for women. As the year closed enrollment of women amounted to 20 per cent of the total registration. Older men also came into the program. One group of 400 men ranging in age from 40 to 60 years were

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trained with marked success for aircraft precision inspection.

By the end of November, 1942, 201 institutions had obtained approval of plans to give ESMWT courses with enrollments estimated at 249,000. These enrollments were divided approximately as follows: engineering, 186,000; chemistry, 5,000; physics, 7,000; production supervision, 51,000. Bethlehem Steel Company alone estimated a need for 2,000 production supervisors.

### **CIVILIAN CONSERVATION CORPS**

The Civilian Conservation Corps camps numbered 1,350 at the beginning of the fiscal year 1941-42, but appropriations were reduced to the point where on June 30, 1942, when the program was liquidated, there were only 350 camps in operation. The educational program in the camps, up to the spring of 1942, was similar in pattern to that carried on in earlier years. Then, however, enrollees were given two types of training: (1) basic training, and (2) special training. Under the basic training program camp enrollees were taught discipline, work habits, cooperation, health and hygiene, first aid, safety practices, and certain occupational training. Instruction for illiterates was also given. Assistance in the training program was given by the vocational schools. Special training consisted of full-time courses operated to train enrollees for positions in the CCC, such as in cooking, baking, mess management, clerical work, and leisure time courses preparing for immediate employment in war production.

### **TRAINING BY THE WAR SERVICES**

It need scarcely be said that the Army and Navy are promoting large scale training programs. Instruction in related subjects, in addition to that given by the armed services, is being given by the vocational schools and colleges, in arsenals, Navy training schools, Signal Corps schools, Navy yard apprentice schools, and elsewhere.

The United States Army, through its Special Service Division, organized the Army Institute at Madison, Wis. during the year. The demands of modern war make a wide range of general technical education essential. The Institute, therefore, offers a choice of over 700 high school and college courses by correspondence instruction. The courses are for the special benefit of the enlisted personnel of the Army but recently, personnel of the Navy, including commissioned officers, Coast Guard, Marine Corps also became eligible to enroll.

The catalogue of the Institute lists available high school and college courses from any one of 76 approved universities or colleges. In these university and college extension course registrations the Government pays one-half the text and tuition fee up to \$20. For certain courses operated by the Institute itself a registration fee of only \$2 is charged.

Headquarters for an operating group on teaching materials for the Institute were set up at Indiana University by the Sub-committee on Education of the Joint Army and Navy Committee on Welfare and Recreation, but this job was later turned over to the American Council on Education. Another operating group under the direction of Dr. Ralph Tyler of the University of Chicago is preparing test materials which will be used in an attempt to evaluate Army experience in terms of high school and college credit, and also work standards.

### **AMERICAN RED CROSS**

The Red Cross, using volunteer instructors, has carried on a vast adult education program. In first-aid courses in the first six months of 1942, 3,333,000 Americans were certified, this number equaling the total number of persons trained between 1910, when this first-aid project started, and the end of 1941.

In 1941-42, 3,619 men from the Army and Navy qualified as first-aid and water safety instructors. Between Pearl Harbor and midyear, 372,674 completed home nursing

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courses, and 31,000 nurse-instructors had responded to the call for volunteers. These few figures illustrate the increase in educational work carried on by the Red Cross in wartime.

### UNIVERSITY EXTENSION

College and university extension services have participated in these wartime adult education programs, have actively carried on ESMWT courses; distributed films for the Office of War Information; cooperated with the Army Institute; offered courses in Signal Corps instruction for the Army and Diesel engines for the Navy; and assisted in the Civilian Morale key center movement by promoting the use of forums and study groups. Typical illustrations of these and other activities and trends in this field follow.

At the University of Colorado the field staff conducted war information institutes in 25 key communities. A state war information institute is now being planned in cooperation with the Federal Office of War Information. Texas Technological College sees a noticeable increase in non-credit classes. Southern Methodist University is working to ascertain outstanding problems in public schools.

The University of Florida is carrying on a training program for the state defense council, and the University emphasizes the manner in which that program has taught communities the value of coordinated effort. The University of Oklahoma conducted short courses for Civilian Defense volunteer officers and notes the success of its radio and family education projects.

The Pennsylvania State College closed a large ESMWT program early in 1942 in 141 centers in Pennsylvania, with a total registration of over 55,000 persons. A staff member was employed by the State Council of Defense to conduct a series of institutes for teaching emergency drivers. The University of Indiana, in cooperation with the State Health Board, offered a series of health institutes for school health personnel. A greater demand by community

groups for visual aids was expressed. The University of Tennessee distributed some 25,000 library packets and plays throughout the state during the year. The University of South Dakota sponsored a summer short course for WPA teachers. Louisiana State University has found great demand for classes in Spanish. It also organized short courses for sugar factory bench chemists and one in pre-flight aeronautics for public school teachers. A series of short courses was offered for the Louisiana Federation of Womens Clubs. The Oregon State System of Higher Education features wartime courses in consumer education, wartime propaganda and censorship, keeping mentally fit, and courses in the Chinese and Russian languages and in others. Oklahoma A. & M. College is cooperating with the American Country Life Association in a three-county school improvement program.

The University of Virginia is carrying on an interesting experimental investigation into methods in adult education. The University of Wisconsin is conducting its liberal education program on a much smaller scale with the ESMWT program counter-balancing it. The University of Idaho offers its courses free of charge to all Idaho enlisted men. James C. Egbert, director emeritus of university extension at Columbia University, in retiring called attention to the fact that 32 years ago President Butler established the department of extension teaching. The University of New Mexico notes the "tremendous turning to adult education as an instrument for cementing the people in an emergency."

Rutgers University sees a large demand for graduate courses in mathematics, physics, and navigation. The University of Texas arranged for its inter-scholastic league, including almost all of the schools in the state, to turn its attention to a physical fitness program recently developed by the U. S. Office of Education. It is also conducting programs in mental hygiene and community adult educa-



tion. The University of Minnesota found great interest in classes in first aid, safety for nurses, in Spanish, and in celestial navigation. The University of Nebraska cooperated with the National Citizenship Education Program in developing certain correspondence courses. Its War Lectures committee made speakers available to communities throughout the year.

The University of Michigan completed the erection of a large new building in Detroit which serves as an adult education center there. Adult education institutes illustrate the range of community groups which make use of that University. Washington University, St. Louis, reports its largest enrollment in modern foreign languages. The University of California offers an outstanding series of informal lectures and short courses in cultural subjects. It estimates that 13,000,000 persons participated in its extension programs in the past biennium.

Travel difficulties resulting from gas and tire rationing have beset university extension programs and will do so in the months ahead. The programs just referred to not only illustrate the varied activities in this field, but they indicate the important position which colleges and universities through their extension divisions have assumed in furthering adult education.

#### PROFESSIONAL ADULT EDUCATION GROUPS

Regional, state, and local adult education councils organized to coordinate, promote, and to serve a clearing house function in their respective areas, are growing in number. A directory listing some of these councils appears in the *Adult Education Journal* for October, 1942. The Adult Education Council of Greater St. Louis, for example, publishes a monthly calendar of program events, a directory of adult education appearing in the area, and publications giving information on adult education and the war effort in St. Louis. The Baltimore Adult Activities Council supplies a clearing house for dates of

events, has a speakers' bureau, and is conducting leadership training institutes. These activities are typical.

The National University Extension Association held its twenty-seventh annual conference at The Pennsylvania State College in May with its program devoted largely to the part which university extension might play in the war effort.

The newly-established Institute of Adult Education at Columbia University published *Suggested Studies in Adult Education* and a *Report of its Commission on Post-War Training and Adjustment*. The American Association for Adult Education started its new publication, the quarterly *Adult Education Journal*.

The Department of Adult Education of the NEA is the largest organization in the field of general adult education in the United States. Its *Adult Education Bulletin* for August, 1942 contains an interesting survey of trends and contributions in the field. During the year constitutional provisions were made to permit affiliation of state, regional, and local adult education councils. In December, 1942 a joint committee representing the American Association for Adult Education and the NEA—Department of Adult Education, met to consider a proposal for unification of the two agencies.

#### WORK PROJECTS ADMINISTRATION

All services of the adult education program of WPA were curtailed or directed toward the war effort. Emphasis was shifted to programs which rendered educational assistance to foreign-born persons desiring to become citizens, to literacy classes, to pre-vocational training, and to courses requested by defense councils. The National Citizenship Education Program was largely dependent on WPA for its teaching staff. Invitations were sent out by the Department of Justice to all aliens eligible for citizenship numbering in all 3,000,000 persons, telling them of educational assistance available. Of the 5,000,000 aliens registered in 1940 it

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is estimated that one out of six was illiterate.

Arrangements were made to liquidate all projects by Feb. 1, 1943. This closed the adult education program which at the depth of the depression had employed approximately 40,000 teachers with some 2,000,000 pupils. The National Citizenship Education Program will be continued in the Immigration and Naturalization Service with the assistance of the public schools and other agencies interested in alien education.

### RECREATION, HEALTH, AND WELFARE

The United States Public Health Service initiated several important programs in adult health education in 1942. These activities may be grouped in two major categories: (1) the preparation of new health education materials designed specifically to meet adult needs, and (2) community organization for public health education. The new materials make use of printed matter, posters, motion pictures, and transcriptions of radio broadcasts. During the past year the Public Health Service assigned qualified personnel to state health departments for the purpose of organizing public health education programs in war communities.

The National Recreation Association, a clearing house for community agencies, converted its activities to the emergency situation. It held a War Recreation Congress, took steps to make recreational services available to workers in war industries, helped government and private organizations to find qualified personnel for war recreation projects, and published the *Recreation Year Book*. The American Public Health Association helped promotional agencies in the field of health to accomplish their purposes.

The National Federation of Music Clubs, 5,000 in number, works in behalf of adult education in the field of music, more particularly American music. The National Theatre Con-

ference carries on likewise for the cause of the theatre.

The contribution made by home economics in rural extension, farm security, child care, school lunch and institutional management, business, home making, social welfare, and public health already bulk large in adult education. The American Home Economics Association develops and promotes standards for this group which labors in behalf of our individual and social welfare. The instructional program in nutrition has been widely successful under the direction of Federal agencies. Member groups of the National Conference of Social Work agencies carry on as a portion of their activities adult education projects designed to teach methods and the importance of social welfare activity.

### AGRICULTURAL AND HOME ECONOMICS EXTENSION SERVICE

This agency, one of the most effective in the whole field of adult education, at the request of the Secretary of Agriculture, has established in 96 per cent of all rural counties a personal contact system of some 650,000 volunteer neighborhood-leaders to support the 750,000 local extension leaders by operating largely on the community level. The Extension Service claims that it is thus possible to get information on wartime programs to the last family at the end of the road. This neighborhood-leader system has been used in the following war programs: salvage, anti-inflation, Food-for-Freedom, fire prevention, war stamps and bonds, farm labor, marketing and transportation, and farm machinery repair. This development is considered to be the most significant of the year for this Service, and it is anticipated that this neighborhood-leader system will also be utilized in the post-war situation.

### NATIONAL YOUTH ADMINISTRATION

The NYA is operating two programs for the current year: (1) a

war production training program, designed to train young people for jobs in war industries through actual experience gained by producing materials essential to the war effort; (2) a student work program enabling needy high school and college students to continue essential training and education by performing useful work under the supervision of schools and colleges.

The war production training program supersedes the youth work defense program operated earlier. The regular out-of-school work program, which was operated concurrently with the youth work defense program and which provided jobs and work experience not necessarily related to the war effort, has been abandoned. Congress appropriated \$49,729,000 to carry out the objectives of the war production training program. These funds are being used to provide practical work experience and on-the-job training in occupations essential to war production in which a present or potential shortage of labor exists in industrial occupations, such as machine shop, welding, forge and foundry, radio and electrical, wood-working, joinery, industrial sewing, aircraft mechanics, automotive mechanics, mechanical drafting, and aircraft and sheet metal.

These funds are expended subject to approval by the chairman of the War Manpower Commission, and it is aimed to prepare between 350,000 and 400,000 youth for jobs in ship-building, aircraft, ordnance, and munition industries. The age limits have been changed from 17 to 24 inclusive, to 16 to 24 years, inclusive, and the trainees have an average work production and training period of between ten weeks to three months. Youths are referred for NYA training through the United States Employment Service. The production training is carried out on the job in workshop units located in communities throughout the United States. A wide variety of the tools of war, ranging from gun parts for the armed forces to ladders for the

Merchant Marine, are produced. Each youth, male or female, learns his job by doing actual production work under the direct supervision of an exacting foreman. The program aims to enable young people to develop a single skill or to do expertly a specific job, such as operating a lathe, drill press, or welder. Trainees may take specific training in shops and classes of the public school system. Local work-training employees are paid for work performed at the rate of \$22 to \$25 per month. In resident centers the net wage is \$10.80 per month.

In its student work program, the NYA aims at the equalization of educational opportunity for students in the schools and colleges. For this program, Congress appropriated \$5,000,000 to assist needy college students and \$3,000,000 to assist needy secondary school students. Students are selected on the basis of proven need and scholastic ability. School officials supervise work performed by NYA students. Students in secondary schools employed on the NYA student work program receive a wage of from \$3 to \$6 per month, while college and graduate students may earn between \$10 and \$25 per month.

#### **LIBRARIES AND MUSEUMS**

The American Library Association has recommended that every library place the greatest possible emphasis on those materials and services which will give people the facts and ideas that will enable them to make intelligent decisions on: (1) how best to contribute to the winning of the war; (2) whether we as a nation wish to progress toward democratic goals; and (3) whether and to what extent we want our country to participate in the organization of the world for peace. Accordingly, the two most important phases of the adult education effort of the Association during the year were: (1) attempt to plan a set of minimum standards for an adult education reading and library service capable of exerting some effect on our social and civic intelligence; and (2) that the Association join with



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other groups in an investigation of the total educational resources needed to support tomorrow's democracy.

The Adult Education Board of the A.L.A. quotes numerous instances of how it has tried to show libraries how they can best contribute to adult education, in its report "Retrospect and Prospect" in the A.L.A. *Bulletin* of Oct. 15, 1942. Examples of adult education projects carried on by individual libraries are also given.

*The Museum News*, fortnightly paper of the American Association of Museums, carries a running review of timely adult education activities of museums about the country. Generally speaking, museums are past the point when they were chiefly concerned with packing, moving, storing, and protecting against war hazards, and they are now carrying on constructive emergency work.

In the field of the arts the American Federation of Art continues its Travel Exhibitions in their 33rd season. These Exhibitions were scheduled in 38 states by 189 museums, art associations, and educational institutions in 469 engagements, largest of any year to date. The Federation believes its primary purpose now to be the planning of a national arts program for the post-war period. Two trends during the current year were observed: increasing interest in native art; and the impact of the war on museum activities when museum attendance had reached on all-time high.

### WOMEN'S GROUPS

Whatever may be said regarding women's function in the war effort it is certain that they have a job to do on the home front. Women are now being trained in increasingly large numbers as industrial workers. On the other hand, women are preparing themselves by means of study groups and other educational activities to carry on more intelligently activities in nutrition, rationing, price control, housing, medical care, consumer education, child care, and other wartime

problems which vitally need the support of an informed public.

The American Association of University Women has conducted its adult education activity since 1882. Though it was originally intended only for members of the Association, it now has branches in 920 communities, thus furnishing a broader leadership. The Association is seeking to use the tools of education to promote the war effort with study being carried on along these lines: (1) leadership in community education on vital issues; (2) support of education; (3) a realistic program of international education on current war and post-war issues; (4) promotion of the effective use of women's services; (5) an arts program, relating art to wartime needs; and (6) support of legislation embodying these objectives.

The League of Women Voters with 600 local leagues in 33 states is a power for good government. For 22 years it has been preparing its members to be good citizens with a responsibility about government. By means of institutes, pamphlets, radio, and the press, the League interprets significant governmental actions such as war finance, inflation curbs, war labor policy, government economy and policies which will facilitate post-war organization for peace.

The General Federation of Womens Clubs, organized in 1889, now has 16,000 clubs with a membership of 2,000,000 women. Its program and activities in adult education are well known. Currently it supplies its individual groups with a pamphlet series on such topics as citizenship, art, education, health and welfare, international relations, religion, war service, alcohol education, publicity education, radio, and urban-rural co-operation. The Federation recently adopted as one of its leading projects the promotion of the training of nurses for the war effort.

The National Federation of Business and Professional Women's Clubs, the Junior Leagues of America, and the various women's auxiliaries have their adult study programs.



**WORKERS' EDUCATION**

The subject of adult education for workers continues to arouse violent controversy, opposition, or enthusiasm whenever it is discussed in educational circles. In such controversy, however, it must be admitted that labor education represents education for democracy. More than anything else the labor movement needs education which will bring understanding and contribute to the intelligent administration of the power of 10,000,000 organized workers. Indications appear currently that there may soon emerge an adult education program of service to labor, possibly subsidized by the Federal Government and in which university extension may play an important part.

Among developments in 1942, for example, was the appointment of a committee on labor education at the University of California, headed by the university president and on which labor had the largest representation with both the A.F. of L. and the C.I.O. being represented. A similar committee had been working at The Pennsylvania State College for more than a year, and in 1942 that institution conducted an experimental institute for shipyard and electrical workers in Philadelphia. The University of California has carried on labor education for some years as has also the University of Wisconsin where state funds had been voted for this work.

At the University of Michigan a unique institute for the automobile workers was conducted. Harvard and Yale made headlines by granting scholarships to selected labor leaders. University extension at Rutgers, North Carolina, Virginia, and elsewhere was carrying on projects. During the year, the War Production Board, in cooperation with selected colleges and universities, conducted a series of institutes on labor in wartime. Though all of these efforts were embryonic in size yet they were significant.

The Workers Service Project of WPA, soon to be terminated, had

served a purpose in that it experimented with a type of informal educational service which gave promise of proving effective. A news release in late 1942 indicated that this type of service might be made a regular governmental activity. WPA experience indicates the effectiveness of discussion groups, forums, panel discussion, audio-visual materials, drama, library services, recreation, music, and information regarding labor legislation and consumer problems. The national conventions of both the A.F. of L. and the C.I.O. passed resolutions urging that worker's education be made a permanent function of government.

The American Labor Education Service is a national workers' education agency serving all branches of labor. It contributed in 1942 by offering service which ran the gamut from answering the simplest requests, through the organizing of a city-wide workers' education council, to planning national conferences for teachers and leaders. Study programs are planned, teachers trained, and special materials issued.

The activities of the Workers Education Bureau of America during the past twelve months may be summarized in the following categories: (1) labor institutes and conferences; (2) relations with state federations and central bodies; (3) war and defense activities; (4) courses in labor problems; and (5) research and publications. The program of labor institutes sponsored by the Bureau and state federations of labor in cooperation with certain universities included those conducted in Nebraska, Iowa, Ohio, Indiana, Colorado, Illinois, New Jersey, and Massachusetts.

Other projects in this field might be described but this subject should not be passed over without noting that the educational department of the International Ladies Garment Workers, which has had a very noteworthy record, celebrated the twenty-fifth anniversary of its founding during the year.

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### PARENT EDUCATION

Units of the National Congress of Parents and Teachers carry on broad adult education programs for men and women who make up its membership. This organization fosters parent education activities, and numerous publications are issued to assist in carrying out its study programs. In 1942 two annual study courses were sponsored by the National Congress, "Babies in Wartime," and "America Pitches In." Among its publications are: *Study Group Technics*, *War Service Packet*, and the *War Handbook*, which contains suggestions on what the PTA can do to aid the nation's war effort, in the fields of morale, health, education, juvenile protection, consumer safeguards, safety, recreation, and community cooperation.

The work of the Child Study Association of America is practically all in the parent education field. This agency makes a significant contribution through its publication and information service and the leadership training which it carries on. Its program in 1942 stressed problems of child care in wartime.

Many other agencies, both governmental and private, contribute to adult education in this field with the Children's Bureau of the United States Department of Labor rendering significant assistance.

### RELIGIOUS EDUCATION

More than 500,000 young women between the ages of 18 and 30 compose the adult education constituency of the Y.W.C.A. Most of these are employed women. The war has given new prominence to young home women who are newcomers in an industrial community, or to wives of men in service looking to the Y.W.C.A. for creative use of their leisure time. The USO has put the Y.W.C.A. staff into 165 communities with those in war industry and military service. Program areas, many of them related to the war effort, which seem to be particularly attractive, include education for marriage, international relations, post-war planning,

problems of minority groups, economic reconstruction, and personality development.

The National Catholic Welfare Conference, a voluntary organization of the bishops of the United States, recognizes as one of its important functions the promotion of adult education. It has prepared and distributed material on the need for and techniques used by study clubs. It has annually sponsored a series of forum outlines in *Catholic Action* stressing year by year current problems. The 1942-43 series present studies of preparation for the following institutes with respect to post-war life: education, religious instruction, the family, the press, lay organizations, international relations, and social justice.

The National Academy for Adult Jewish Studies, organized in 1940, functions under the auspices of the Jewish Theological Seminary of America. Its purpose is to strengthen and to coordinate efforts for adult Jewish education now in existence, but even more to stimulate the spread of adult Jewish education in American Jewish life. Charters are issued to institutes which require that their adult education programs be conducted in accordance with standards set up by the Academy. The Academy has issued 16 texts especially designed for adults. The adult education program of the National Jewish Welfare Board, parent organization of YMHA, YWHA, and Jewish community centers, utilizes such techniques as forums, discussion groups, language classes, and educational trips.

Among Protestant groups, the Federal Council of Churches and the International Council of Religious Education similarly conduct educational activities. The latter agency bases its study program for the current year on world relations and on the basis for a durable peace.

### UNITED SERVICE ORGANIZATIONS

The activity of the United Service Organizations in behalf of men and

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women in the Army and Navy and in war production areas is most interesting. The USO, whose member agencies are the YWCA, the Jewish Welfare Board, the National Travelers Aid Association, the National Catholic Community Service, the Salvation Army, and the YMCA, of course, carries on an entertainment program for our soldiers, sailors, and marines, but according to an article in the *Adult Education Journal* of October, 1942, it is becoming to a considerable degree an agency of adult education. Many in the armed forces want to pursue their peacetime interests and hobbies. They want good music, they want to paint, to read, discuss current problems, or to make things. More than 1,800 professionally trained staff workers are now employed at USO centers. This group is assisted by a large number of volunteers. The USO in its activities must contend with serious limitations. Wartime pressures are not particularly conducive to study. There are personal anxieties and uncertainties, military activity is of necessity highly organized, and the transitory nature of the personnel served is a handicap in the continuity of any program.

### AUDIO-VISUAL AIDS

A technique of adult education which is currently being much more widely used is audio-visual aids. The Office of War Information is producing war morale films for which it has secured wide distribution through university extension and commercial film libraries. The best known subject is "Target for Tonight," picturing a large scale R. A. F. attack on a German target. Educational films and other visual aids are being used extensively by the schools and colleges in their vocational training classes and by the armed services in their training and morale work. Many fine documentary films dealing with our economic and social welfare are being produced.

### RADIO

The large broadcasting companies

continue their efforts in this field. Columbia published a *Study Guide* describing its programs of an educational nature, supervised by Lyman Bryson, its educational director. NBC in the summer of 1942 launched an interesting experiment in higher education. Rather than have sporadic broadcasting of relatively unrelated public service features, the company reasoned that educational programs would gain new value if brought together into one unifying institution; therefore, it founded the Inter-American University of the Air.

Educational institutions and agencies, such as the Rocky Mountain Radio Council, continue their efforts at educational broadcasting. Transcription services are beginning to grow in importance.

### OTHER ADULT EDUCATION FIELDS

It is evident that the field of adult education lacks form and is not neatly organized like elementary or secondary education, and that agencies contributing to it are so numerous that mention of all is difficult. The Office of the Coordinator of Inter-American Affairs carries on an educational program on life in other American countries. The National Safety Conference and other agencies are active in the field of safety education. The National Federation of Settlements furnishes information on large adult education programs being carried on in the settlements. The American Legion issues a series of bulletins on traffic safety, citizenship, and related subjects. Study groups in many subject-matter fields go on in public housing centers. Many projects are scheduled for the education of minority groups particularly negroes. The Osborne Association is currently carrying on a three-year study of educational and library services in American prisons and reformatories. Programs of alumni education are carried on by the University of Michigan, Mount Holyoke, Smith, and Vassar. In the regular evening class program conducted by public schools in many urban areas, the

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trend of enrollments in 1942 was definitely down largely because of competition of the vocational programs.

### THE FUTURE

Dr. Harry W. Chase, in his 1942 presidential address before the American Association for Adult Education, states in part; "We have today the spectacle of an adult world learning things, from tank maneuvers to gardening, from new sorts of mass production to our daily lessons in geography and history; a population being taught by Government officials, by commentators, authors, by press and radio, by the vocational expert, by the top sergeant, by the officials of civilian defense, by the college pro-

fessor, by the refugee; in short, more people are at work today teaching and learning more new things than at any moment in history," but "there is ahead of us one of the hardest jobs of re-education that any people ever faced. I refer, of course, to what will confront us once the war is done."

Many agencies are studying that job—training 15,000,000 Americans for peace-time jobs. There will be men and women discharged from the armed forces, displaced war workers, and the war-disabled, but there is a larger group, a greater job for adult education; the American adult population should give attention and study to sound bases for a durable peace.

## NEGRO EDUCATION

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### GENERAL

The education of 13,000,000 American Negroes during 1942 was conditioned in many directions by the impact of the Second World War on the thought and actions of masses, both white and Negro, as well as of leaders in education, industry, and government.

A current story of American Negro education ranges far beyond statistics. It reaches out into the complicated realm of race relations and these relations have their rootage in psychology, sociology, economics, religion, political theory, and just plain human nature which is engaged in the never-ending struggle to higher levels.

Negro education continued to remain basically a composite of psychological elements in action, some positive and many highly negative.

Robert L. Sutherland completed his important study of Negro youth for the American Council on Education. His book, *Color, Class, and Personality*, summarized a three-year investigation, conducted through the American Youth Commission on the ques-

tion: "How does the fact of being born a Negro affect the developing personality of a boy or girl?"

Armin A. Manske (*Education Abstracts*, April 1942) wrote this summary: "The frustrations . . . cause the type of Negro personality that pervades the thinking of the American people; Negroes are human beings . . . ; Negroes desire equality of opportunity and not identity with the whites in the sense of intermarriage . . . ; Negroes desire to be full-fledged Americans, giving service on a basis which recognizes ability, loyalty, and justice . . ."

These ideas and objectives throughout American Negro education were emphasized at every turn.

Occasionally a writer states very graphically what has happened in the realm of Negro education. One such statement appeared in *The New York Times* (April 10, 1942) and is worth quoting in full:

"The number of children in New York City schools in the course of a century increased twenty times. The number of Negro college students in



the course of a quarter of a century increased seventeen times (from 2,637 to 45,000). Roughly, Negro college education in the country has grown four times as fast as public schooling in New York City has expanded in practically the whole history of free public education."

Negro education, in short, epitomized for 1942 numerous problems, techniques, programs, lights and shadows of a complex economic and social order, hits and misses in planning, successes and frustrations, and in fact every element of human thought and action, both good and bad.

### TRAINING AND PROGRESS

The wartime conditions emphasized, in the field of Negro education, the importance of having intelligent men and women re-examine their philosophy of life and practice of social education. American Negroes received specialized training and were able to go forward in many directions. A few examples of progress and success follow:

(1) Secretary Knox announced (*The New York Times*, April 9, 1942) that Negroes would be enlisted in naval and marine combat units and could expect to be promoted according to merit to non-commissioned ranks. On June 1 the Navy began to form battalions of Negro fighters and specialists. The American press favored the experiment of having all-Negro crews and reminded the nation that Navy men should be judged "not by their color, but by their willingness to do their duty and carry their share of the load."

(2) On May 26, John G. Pew, president of the Sun Shipbuilding and Dry Dock Company at Chester, Pa., announced that all the 9,000 workers at a new shipbuilding yard, then under construction, would be Negroes, who at first would work under the supervision of white men. The preference was to be given to Negroes from Philadelphia, Chester, and other nearby areas. At this time the Sun Company was employing some 2,000 Negroes. Special training courses were set up for the Negro

shipbuilders. Dr. Emmett J. Scott, was named as personnel director of this new venture in giving Negroes a new start in industry.

(3) Late in May there came the announcement that the Navy would begin, on June 1, to recruit Negroes for combat service at the rate of 1,000 a month. The training program covered all the skills that would fit Negroes for shore and high-sea service. At the Great Lakes Naval Training Station, Negroes began to receive training in vocational schools. Sixteen-week, specialized courses were opened at Hampton Institute, at Hampton, Va., to enlistees, who could fit themselves to become electricians, carpenters, shipfitters, machinists, metalsmiths, firemen, and cooks. Negroes also were given the opportunity of special training as aviation machinists.

The more proficient Negroes were given training as gunners, quartermasters, yeomen, storekeepers, cooks, and radio men. Some bandmen were also trained.

(4) At Tuskegee Institute, Negroes received valuable and up-to-date Army flying and ground training. While this school was under the command of a white colonel, who was assisted by some white officers at the headquarters, the enlisted personnel was all Negro, and many of the commissioned officers were Negro. The ranking Negro administrative officer at the Tuskegee school was Lt.-Col. Benjamin O. Davis, Jr., a graduate of West Point and son of Brig.-Gen. Benjamin O. Davis. Colonel Davis, in order to serve his race, suspended the privileges of his rank in 1941 and took the regular training of an aviation cadet. The Tuskegee flying school was limited to 20 graduates every five weeks, but it served, not only as an experiment in preparing pilots for the 99th Fighter Squadron of AAF, but also as a valuable demonstration of what Negroes could accomplish, when they were given first-class training and high-grade equipment. On March 7, Col. F. V. H. Kimble, U. S. A., pinned wings on the blouses of five Negro lieutenants,

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members of the first graduating class of the Army's first Negro air school.

(5) Paul V. McNutt in June appointed Dr. Robert C. Weaver as Director of the Negro Manpower Service to work for the full use of Negroes in the training and employment phases of the war-production program. This service will aim to assist in obtaining wider participation of Negroes in war industries. It will compile and distribute information relative to the availability of Negro manpower and training programs. It will direct attention to the possibilities of the utilization of Negroes when local training programs and housing projects are being planned. The service will also co-operate with the President's Committee on Fair Employment Practices (see below).

(6) There went to a Negro messman, Dorie Miller, the Navy Cross and an advance in rating, on the recommendations of the Pacific Fleets Board of Awards and the fleet commander in chief, for heroic action during the attack on Pearl Harbor.

### NEGROES OF THE SOUTH

The Negro population is largely concentrated in the South—77 per cent as against 21.7 per cent in the North. The Negro population increased from 1930 to 1940 nearly 975,000, a rate of 8.2 per cent against the country-wide population increase of 7.2 per cent. The Negroes of the South, however, increased merely at the rate of 5.8 per cent, as against 15.8 per cent in the North and 41.8 per cent in the West. The Negro and his numerous problems, therefore, have been taking on a national rather than a regional significance.

Students of Negro education will do well to keep in mind the concentration as well as the distribution of the Negro population, for, coupled with the problems of education and livelihood of America's important minority group, there are important problems of social and economic adjustment which affect the relations of whites and Negroes.

The Bureau of the Census issued in February a press release which

showed clearly that nearly all regions have to reckon with masses of Negroes—the North with 2,790,193; the South, 9,904,619; and the West, 170,706.

Georgia, with 1,084,927 Negroes; and Mississippi, with 1,074,578; Alabama, with 983,290; Texas, with 924,391; and Louisiana, with 849,303, faced unusually difficult problems of organizing, administering, and supporting an adequate number of schools for their Negro citizens.

The figures for a few states indicate how seriously the high proportion of Negro to total population, given in percentages, may become in arriving at equity in educational opportunity for Negro children—Mississippi, 49; South Carolina, 43; Louisiana, 36; Georgia and Alabama, 35 each; North Carolina and Florida, 27 each; and Virginia, 25.

### WHITE LIBERALS

During 1942 a group of liberal white leaders in the South continued their excellent work of improving Negro educational facilities. The Southern States Work Conference, of which Prof. Edgar L. Morphet is executive secretary, issued a valuable report on "Negro Education." The following items were emphasized:

(1) The South has one-third of the nation's children to educate with one-eighth of the nation's wealth or taxing ability and only one-sixth of the Nation's school income.

(2) Out of this economic-social problem there has developed a series of other problems, including that of the equitable treatment of the vast Negro population, especially in the matter of public education.

"The Federal Government," according to Professor Edward McCuiston, "has given no help to the Southern States in building up the regional system of education for Negroes."

The conclusion follows that Negro education, if it is to be improved beyond the standard of 1942, needs to be recognized by the entire American population and all citizens must share in the educational improvement

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of the vast Negro population of 13,000,000.

### TENSE RACE RELATIONS

The upshot of difficult educational conditions which harass southern Negroes, was a tenseness of race relations which was not helped either by reactionary white leaders or by bitter-end Negro leaders. A summary of this situation was presented by Virginius Dabney (*Atlantic Monthly*, January 1943), who speaks with uncommon authority, for he represents the Southern group of liberals who wish to see American Negroes treated as men and women, but who do not mean to be crowded into precipitate action—social, economic, or political—in race relations today or tomorrow.

According to Mr. Dabney the income per child for the various states shows an average of \$2,481 for the country as a whole, while the Southern States range from a low of \$930 to a high of \$1,528.

The average outlay per pupil for education in the United States is \$74. The South spends an average of \$40 (with a range from a low of \$25 to a high of \$50). Then too, the South is handicapped by the fact that it has much the largest number of children, per adult, in the nation. On top of all this untoward condition, is the fact that the South is committed to a dual system of public education. Throughout 1942, as well as in earlier years, there were many arguments made by both white and Negro leaders that the South should receive aid for education from Federal sources.

### EDUCATIONAL INDICTMENT

President Mordecai W. Johnson of Howard University (*The New York Times*, May 2, 1942) presented an indictment of the educational program which has been offered to Negroes, particularly in the Southern States. He stated that, while the average per capita expenditure for education in the United States was \$75 per annum, it was only \$20 for Negroes in the South and that in five Southern States it was \$7.60. He also stated that the morale of the Negro race

was "tragically low as the result of discrimination in the Army, Navy, and Air Forces."

President Johnson also discussed concretely "Negro Education and the Present Crisis" (*Education Record*, July 1942). Some of the outstanding statements follow: (1) Average expenditure for equipment per child averaged \$256 for the nation—for the Negro child, \$26; (2) In Alabama, Arkansas, Georgia, and Mississippi, the annual salary for the Negro teacher averaged \$295—for the nation, \$1,283; (3) In the Southern States, where 9,000,000 Negroes live, there was not a single state-supported medical school for Negroes—consequently the shortage of Negro doctors; (4) The South had not a single engineering school for Negroes that could be accredited by the national accrediting body.

### HANDICAP TO NEGRO LIVES

The lack of adequate professional training facilities for American Negroes stirred *The New York Times* (May 7, 1942) to make the following presentation of a problem which affects white as well as Negro citizens: "Out of a 1,000 male children born in the United States about 440 will live to be 70 years old. Out of 1,000 Negro boys the survivors at 70 will be about 250, or something more than half of the white survivors. . . . Out of 10,000 white male births and the same number of Negro births, there will be 500 more white boys alive at the age of 10; at the age of 30, the gap will be 1,200; at the age of 50, the gap will be 2,400. At that age the white survivors will be more than three-fourths. The Negro rate will be something over one-half."

### INEQUALITIES AND THE LAW

Milton R. Konvitz (*American Scholar*, June 1942) summarized as follows, under the caption "A Nation within a Nation," the Negro population's present status: "The American Negro makes up about one-third of that one-third of the nation which lacks wealth and health; but the Negro lacks, not only the material con-



ditions for the good life, but even in many cases the legal rights to acquire and enjoy them. . . . It is assumed that inequalities exist despite the law. But many inequalities exist *because* of the law." The fact that over 7,000,000 of the 13,000,000 Negroes live in urban sections, segregation and overcrowding of Negroes go hand in hand.

## PROBLEM OF EQUALIZATION

Some slight improvements were made over the showing made in 1940, when, according to the Southern States Work Conference report on Negro Education, the average annual salary of the Negro teacher was \$560 (or 55.4 per cent that of the white teacher). Even this figure represented gain, since in 1900 the Negro teacher averaged \$105, or 60 per cent that of the white teacher. Each year the burden of equalizing white and Negro teachers' salaries in the South becomes heavier. It is conservatively estimated that to equalize the teaching loads alone would cost 11 Southern States an additional annual expenditure of over \$24,500,000. To eliminate inequalities in Negro schools, elementary and secondary, for example would involve an annual extra outlay of \$60,000,000 to \$80,000,000. If Negro higher educational institutions were equalized with white institutions, then the extra annual outlay would be raised to \$85,000,000.

No matter how the facts of education or of Negro education in the South are studied, the one conclusion keeps recurring: The South needs Federal aid for its Negro schools as well as for its white schools. The year 1942, with all its so-called "war prosperity," did not alter materially the facts or the conclusion as stated by competent Southern authority.

## HIGHER EDUCATION REVIEWED

Negro higher education and the war was treated fully in the *Journal of Negro Education* (July 1942), published by the Howard University Press, Washington, D. C. Twenty-two chapters were contributed by outstanding white and Negro edu-

Part I dealt with "The General Role of Higher Education in the War and Post-War Reconstructions"; Part II, "Negro Higher Education and the War"; and Part III, "Negro Higher Education and Post-War Reconstruction."

Prof. Charles H. Thompson of Howard, editor of the *Journal*, provided a six-page "Editorial Comment," which presented a long-range view of many of the current problems in Negro higher education, including that of the dangers to be avoided and the gains which were made as the result of the First World War, that of gearing college programs into the needs created by the Second World War, that of the higher education of Negro women, that of defining the rôle of Negro education at various levels, that of the Negro's paradoxical relationship to American life and democracy, that of the fundamental, as well as educational, issues raised for Negroes by the Second World War, that of adapting education to the war emergency and governmental activities, that of sound objectives in curricula and in educational practices, and that of privately and publicly-supported institutions.

## EDUCATIONAL ISSUES

Higher education for the Negro, as always, raised many issues during 1942. Dr. Felton G. Clark, president of Southern University (near Baton Rouge, La.), summarized the major issues as follows (*Journal of Negro Education*, July 1942):

"Shall Negro higher education impart to Negro youth a restricted philosophy of life, . . . or shall it endeavor to instill within the Negro adolescent an awareness of responsibility for the constant clarification of the democratic ideal . . . ? Prosecute effective preparation for war, . . . or await notice . . . ? Contribute . . . where there is absence of racial discrimination, . . . or develop separate defense programs . . . ? Accelerate the organizational program, or maintain the present pattern . . . ? Prune unessential courses, . . . or make a maximum contribution to all-out war



effort? Train leaders, or . . . the masses? Suspend operation, or seek . . . financial support? Retain specially trained staff members . . . , or allow them to be lured into other areas . . . ? Project expansion . . . , or decrease facilities . . . ? Prepare for post-war reconstruction, or simply meet the present emergency?"

#### COMPARATIVE EDUCATION

There were during 1942 nearly 50,000 Negro college students out of 1,500,000 college students (*The New York Times*, Oct. 21, 1942): "Think what it means that a population of 13,000,000 Negroes should have 50,000 college students. It is a ratio in higher education nowhere approached in the most advanced nations of white Europe before the last war . . . College education for American Negroes today is about as common as secondary education was a generation ago for the people of England, France, or Germany."

#### WAR-TRAINING PROGRAMS

Negro colleges responded wholeheartedly and effectively to the national call to mobilize all their resources for developing the war-training program, according to Prof. L. L. Woods of St. Augustine's College, Raleigh, N. C. (*School and Society*, Jan. 2, 1942).

These colleges gave special scientific professional training to assist industry and provide scientifically trained personnel for the armed forces. Not a single college, according to Professor Wood, reported any training program operated by the college in cooperation with the Navy Department. One college reported that it had a physical-education program operating in cooperation with the War Department.

Many of the Negro colleges had Enlisted Reserve Corps units. In the Negro state or land-grant colleges there were numerous ROTC units in operation. The Negro college war-time programs assisted numerous governmental agencies, including the Office of Education, NYA, WPA, and War Department. In nine Negro

colleges there were ESMDT programs which were presented by members of the regular teaching staffs. Howard University enrolled in special war-time courses at least 1,250 students.

Some of the war-time courses offered by the Negro colleges were highly specialized; such as, electronics, internal-combustion engineering, engineering drawing, radio, radio engineering, and chemical testing of materials. In other cases, where facilities for business training were available, courses in industrial accounting, personnel management, and office practice were offered.

The smaller Negro colleges favored the pooling of equipment and teaching talent to meet the needs of the war-training programs. They also favored the year-round term. Negro colleges, according to Professor Woods, did a good job with the resources at their command. The colleges, however, need more generous assistance from state and Federal authority as well as from benefactors.

#### INTEREST IN V-PROGRAMS

Leaders in Negro higher education carried on a vigorous campaign to open the V-Programs of the Navy to qualified Negroes. On June 12, a committee of the Conference of Presidents of Negro Land-Grant colleges presented a memorandum to Secretary Knox on the subject of Negro participation in the Navy Enlisted Reserve Program.

The Conference made these requests: "(1) Negro colleges be immediately authorized to participate in the V-1 program; (2) Negro students in colleges which have been approved to give such training be allowed to participate as other students; (3) equitable provisions be made for prospective Negro enlistees to receive ratings through examinations as are now made for prospective white enlistees." Navy representatives, however, declined to recommend that Negro colleges and Negro students be permitted to participate in the V-1 program.

Professor Jenkins reported that Ne-

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gro leaders wished to see the Navy get the best material on both the sailor and officer levels. He added: "Insofar as Negroes are concerned, the Navy's policy restricts their opportunity for participation in the war effort and contributes to the cynicism and the consequent lowering of morale noted in many quarters. . . . The 'Navy incident' constitutes only one aspect of the pattern of undemocratic practice which exists in our social order. The action of the Negro colleges of aggressively challenging these practices is a patriotic service of the highest order."

### NEGRO COOPERATION

Negro colleges, according to President John W. Davis of West Virginia State College (*Journal of Negro Education*, July 1942), gave current services to many war needs, including Army Enlisted Reserve Corps. ESMDT courses, refresher teacher-education and trade courses, military information service, senior field artillery and Coast Guard ROTC units, pre-induction military and health training, agriculture for national defense, nutrition and promotion campaigns, foods and gardens for Victory Service, program for training women as technicians, civilian morale service, and civilian pilot training.

### NEGRO RESEARCH

In a three-day conference, held at Hampton Institute, June 12-14, 1942, the presidents of 15 Negro land-grant colleges approved a proposal, made by Prof. W. E. B. DuBois of Atlanta University and editor of *Phylon*, an outstanding quarterly on race problems and cultures, to have colleges conduct a series of cooperative studies on the American Negro's social condition and his economic status, both during and after the Second World War (*School and Society*, July 25, 1942).

The conference members discussed problems of employment, defense training, the nation's Army and Navy programs, and labor unions. They sought to find the way "of raising the standard of living and culture pattern

of American Negroes through education, work, law, and social action."

The study which these presidents outlined will be financed by the Negro land-grant colleges and will be conducted by qualified instructors on their staffs. The findings, it was agreed, would "be brought together periodically and then compared, edited, and published in convenient form for the use of legislators and students of social problems."

The Negro land-grant college presidents favored the formation in each institution of a complete division of the social sciences so as to give Negro students the opportunity of securing "unified knowledge of social conditions and modern trends."

The introductory statement at the conference, which emphasized the importance for Negroes of the problems arising out of the prosecution of the war, was made by President Malcolm S. MacLean of Hampton Institute, who was also president of the Association of Presidents of Negro Land-Grant Colleges.

### LAND-GRANT ENROLMENT

The enrolment in Negro land-grant colleges dropped to 10,235 students in 1942 from 11,382 in 1941, a decrease of 10 per cent. The loss was attributed by Robert L. Jack of the Department of Social Science, Alcorn (Mississippi) Agricultural and Mechanical College, to the operation of the Selective Service and Training Act and the availability of defense jobs (*School and Society*, April 11, 1942). Of the total number in attendance, some 3,700 or 36.4 per cent were freshmen. In nine colleges there were 530 freshmen registered in mechanic arts and 452 in agriculture. The decrease of students taking agriculture was 14.1 per cent (1,384 in 1941 and 1,188 in 1942).

### GRADUATE EDUCATION

The heavy impact of global war upon Negro graduate and professional schools was adequately summarized as follows by President Rufus E. Clement of Atlanta University (*Journal of Negro Education*, July 1942):

"The graduate courses of the schools of arts and sciences show a definite decrease in enrollment. . . . Institutions are re-examining their programs . . . and shortening the total time which must elapse between the day a student first registers and the day he may complete his courses. . . . There are sharp decreases in financial support. . . . The Negro population needs more well-trained Negro physicians and nurses. The war has also reflected the relative scarcity of high-class training facilities for Negroes in the technical fields. . . . The Negro's stake in the present world conflict has been clarified."

#### ILLITERACY AND THE WAR EFFORT

Negro illiteracy came to the front in 1942 when the Office of Education released the figures concerning the rejections by the military service of about 250,000 physically fit men,—enough for 15 divisions,—because they lacked the necessary literacy, education, or mentality for service in the Army and Navy (*The New York Times*, May 30, 1942). According to the 1940 Census, there were 2,700,000 Negroes who had not passed the fourth grade. This group contributed its quota to the pool of 250,000 men who had been rejected for service in the armed forces.

#### THE ISSUE OF FAIR PRACTICE

President Roosevelt, on July 30, transferred the activities of the Committee on Fair Employment Practice from the War Production Board to the War Manpower Commission and allocated the sum of \$48,552 to provide for the salaries and expenses of the CFEP, of which Dr. Malcolm S. MacLean is chairman (*Federal Register*, Aug. 12, 1942). Other members of the Committee were: David Sarnoff, Mark Ethridge, William Green, Philip Murray, Milton P. Webster, and Earl Dickerson.

The transfer was made in order to increase the Committee's effectiveness in mobilizing Negro manpower for the War effort.

President Roosevelt said: "The

Committee will carry on its receipt, investigation, and redress of complaints of discrimination in employment in war industries, training agencies, and departments of the Federal Government, in order to accelerate and reinforce the all-out, effective use of American man-power without regard to race, creed, color or national origin."

CFEP discovered that discrimination against the Negro is no monopoly of the Old South. Hearings were held during the year in Los Angeles, Chicago, Washington, and New York, where discrimination against the Negro has been flagrant and to the detriment of war production (*The New York Times*, July 2, 1942).

The public discussions brought into clear light the fact that modern industry needs trained workers, and the Negro has few opportunities to get training in new industrial skills.

#### NEGRO MIGRATION

Negro leaders throughout 1942 cooperated to halt the migration of their fellows from southern rural districts to the larger towns and cities, both South and North, where war prosperity served as a magnet. They sought to improve local school facilities, as well as create public sentiment in favor of protecting the Negro masses in their property and lives, giving them fair and impartial court trials, affording them fair wages for fair standards of work, and implementing democratic treatment at the hands of those in power or authority.

Negro education in the South continued to be severely conditioned by the fact that a disadvantaged population group has had to live on marginal land and face very difficult economic conditions which have had unfavorable social reactions, including mass movement from the land.

The migration of Southern Negroes from the rural areas to the towns and cities and the dropping of the Negro tenants into the wage laborer group were clearly shown by Bris T. Inman in "The Agricultural Situation," issued by the U. S. Department of

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Agriculture and cited in the *University of North Carolina News Letter* (Nov. 11, 1942). A quotation from Inman follows:

"Colored [farm] operators decreased at a much more rapid rate (22.8 per cent) than did white operators (0.6 per cent); colored renters were reduced by 32.2 per cent, while the number of white renters declined only 1.1 per cent. . . .

"There were only about 30,000 more rural farm people in the [15] Southern States in 1940 than in 1930 . . . in an area having a total population of 16,255,202 rural farm people in 1940. . . . Net migration from farms totaled more than 3,000,000 people during the decade."

### SOCIAL ENVIRONMENT

Negro and white leaders in education, during 1942, faced again the problem of measuring the effects of social environment. Professor Herman G. Canady and several other students in the field of psychology presented their findings (*Journal of Negro Education*, January 1942) and came to the following conclusion:

"Since there is a higher correlation between environmental stimulation and intelligence scores than between socio-economic status and intelligence scores, it suggests the possibility that a student's standing on an intelligence test is more closely related to environmental stimulation than to the socio-economic level of his family."

If this conclusion should prove to be valid, then those who labored during the year for improving the educational environment of Negro youth were on the right track.

### SOUTHERN COOPERATION

The problem of improving race relations was faced by many groups during 1942. One important contribution was made by Miss Estelle Hightower, who published, through Teachers College, Columbia University, a unit and study guide, which was the outcome of plans that she had developed in grade twelve of the Lee County High School, Auburn, Ala.

Miss Hightower pointed out that in-

terest in Negro life was discovered by high school seniors while they were working on a unit which dealt with rural poverty. White children began to ask questions concerning the income of Negroes, then they expressed an interest in knowing about local Negro life. Next there came questions which seemed basic to many of the pupils: Can Negroes learn as rapidly as white people? Are Negroes really interested in higher education? How are Negroes distributed by states and regions? What are Negroes thinking about themselves and other people?

The children, under guidance, gathered and organized the materials on race relations, made reports during class periods, visited Negro schools, and finally came to some tentative conclusions.

Miss Hightower's 18-page unit furnishes in itself an excellent example of what was done during 1942 to improve race relations.

Through Miss Hightower's pioneering effort, Southern white high-school boys and girls developed a sympathetic attitude toward Negroes and discovered that the South would be closely tied up with the welfare and progress, or the neglect and stagnation of the vast Negro population.

### FEDERAL COOPERATION

The NBC Red Network contributed its broadcast facilities for a number of Sundays to the Federal Office of Education which sponsored a series, called "Freedom's People," which told graphically the story of Negro participation in all phases of American life—education, industry, agriculture, sports, music, public affairs, literature, and war work.

The Rosenwald Foundation (Chicago) and the Southern Education Foundation (Washington, D. C.) made funds available for this nationwide dissemination of facts concerning Negro life and thought.

Dr. Ambrose Caliver, senior specialist in Negro education for the Federal Office of Education, conceived and supervised this series of outstanding and artistic broadcasts.



**HEALTH EDUCATION**

The School Co-ordinating Service of the North Carolina Department of Health offered 24-hour extension courses for in-service Negro teachers, who learned how to keep health-record cards, how to conduct simple health inspections, how to weigh and measure children, how to test children's vision, how to detect physical deviations, and how to utilize effectively public medical and dental service.

North Carolina also gave its Negro teachers the opportunity of learning the principles of nutrition and physical activity in relationship to the proper growth and development of the child.

Goldsboro, N. C., planned a program for the correction of physical defects in Negro children which was heartily supported on a community-wide basis. Children were fitted with glasses, some had bad tonsils removed, some received orthopedic treatment. Children were given better lunches. Health rooms were set up. Health teaching and guidance were put into action. Units of health work were organized (*North Carolina Health Bulletin*, April, 1942).

Negroes became increasingly aware of the problem of securing better health. Mrs. Ora Johnson Newman, assistant principal of the Maggie L. Walker High School, Richmond, Va., began during the Summer a program of health work, under the auspices of the Virginia Tuberculosis Association. Frank S. Jones, president.

Prof. L. F. Palmer, principal of the Huntington High School, Newport News, Va., helped to formulate a health-education program for Negro teachers which brought to the Negro auxiliary a prize of \$250 for the best such plan submitted by a Southern state. The plan was carried into action at the following Summer Schools: Virginia State College, Ettricks; Virginia Union University, Richmond; and Hampton Institute, Hampton. Among those who cooperated as leaders were Dr. E. G. Trigg, Charles H. Williams, and W. H. Henderson.

The purpose of this health course

was to present the problems that arise when tuberculosis is rampant. The approach was made through teachers who were attending summer schools because these men and women are among the best qualified to lead the Negro masses who, through unfavorable sanitary and living conditions largely beyond their control, fall victim to the white plague.

**SALARY EQUALIZATION**

Such cities as Louisville, Norfolk, and Chattanooga put into effect simple salary scales for both white and Negro teachers. In other cities, Negroes sought similar action by filing petitions or legal suits.

Beulah Amidon in the *Survey Graphic* (November 1942) declared that "in the eleven Southern States which have the highest percentage of Negro citizens Negro youth receives only 37 per cent of the amount which would be allotted were school funds equally divided between white and Negro children." She pointed out that "more than 60 per cent of all Negro schools are one-teacher schools and in 230 counties, in fifteen Southern States, there are no high schools for Negro youth." These are sample highlights in the problem of Negro education.

In education, even under the Supreme Court's decision in the case of *Gaines vs. Canada* (1938), the Negro simply "won the right not to be sent out of the State for his education." He was, however, deprived of the right to an education in a public institution regardless of his color. This situation for 1942 remained unaltered, despite the concerted efforts of both white and Negro leaders.

The Federal Courts, however, helped to equalize in some areas the salaries of Negro teachers. The outlook is that "ultimate equalization is inevitable, as it should be," according to Virginius Dabney (*Atlantic Monthly*, April 1942).

Judge Davies of the U. S. District Court at Nashville, Tenn. ruled on July 28, 1942 that the board of education of Nashville should equalize the salaries of white and Negro teachers.

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He gave the Court order for equalization to begin on Sept. 1, 1942.

Negro teachers were successful in securing equalization of salaries in Marion County, Florida. In Escambia County, Florida, the school board was ordered to pay all Negro teachers for the year 1942-1943 "one-half of the differential in the salaries paid white and Negro teachers." Under this ruling all salaries will be equalized in 1943-1944. In New Orleans a plan went into effect, as of Sept. 1, 1942, that would equalize teachers' salaries, regardless of race. The plan for Richmond, Va. provides for equalization in 1946.

### AGRICULTURAL EDUCATION

Negro agricultural education and demonstration work marked its thirty-fifth anniversary in 1942. During the year some 555 Negro agents, both men and women, with a budget of more than \$1,000,000, served 338,000 Negro farm families and approximately 187,500 Negro boys and girls.

Virginia Negro farm and home agents carried on many profitable programs of education for the benefit of 402 clubs in 35 counties and 11,130 members. They were assisted by 967 local leaders, of whom 380 were former 4-H club members. The Negro agents, in addition to their agricultural and home-economics programs, conducted 171 county training meet-

ings at which volunteer local leaders in club work received timely instructions and guidance (*Virginia Extension News*, May 1942).

### PUBLICATIONS

Important bibliographic material on Negro education was published quarterly by the *Journal of Negro Education* (Howard University, Washington, D. C.) and *Phylon* (Atlanta University, Atlanta, Ga.). Edwin R. Embree in *American Negroes* (John Day Company) scanned the situation of American Negroes in a search for fuller freedom and opportunity in a democracy. *The Negro Caravan*, edited by Sterling A. Brown, Arthur P. Davis, and Ulysses Lee (Dryden Press) furnished an anthology of American Negro writings. Sterling A. Brown delivered to Doubleday, Doran the manuscript of *A Negro Looks at the South*, which evaluated the economic and sociological relationships between the Negro and the South. Walter Dyson in *Howard University: Capstone of Negro Education* (Howard University Graduate School) presented a history of Negro higher education from 1867 to 1940. Dr. Marion Edman of the Division of Instruction, Detroit, prepared an extensive bibliography on Negroes, entitled *Negro Boys and Girls in School*.

## LIBRARIES

BY MILDRED OTTOMER PETERSON  
AMERICAN LIBRARY ASSOCIATION

### LIBRARY POLICIES IN RELATION TO THE WAR

"Books can help win the war—" Believing this, librarians of the United States and Canada bent every effort during 1942 to promote the use of war-related books. Libraries, along with all American institutions, have been reorganized for war. This has meant more than a change of emphasis, more than minor adjustments.

Librarians believe that the Ameri-

can people are faced by three problems of such dominating importance as to demand the concentrated efforts of all agencies. They are: "(1) How to make our maximum contribution to the winning of the war; (2) whether we as a nation wish to return to pre-war conditions or to continue toward democratic goals; and (3) whether and to what extent we want our country to participate in the organization of the world for peace."

In June 1942 the American Library Association urged "that every library give the greatest possible emphasis for the duration of the war to those materials and services which will give people the facts and ideas that will enable them to make intelligent decisions" on the issues involved in winning the war, planning for post-war America, and planning for the postwar world.

The A.L.A. met in advance the anticipated criticism that this would look like propaganda by stating that "libraries must always refrain from telling people what to think. They cannot avoid the responsibility of helping them decide what to think about."

#### WAR ACTIVITIES

Reports and articles implementing these policy statements will be found in the *A.L.A. Bulletin* (especially the July, Sept. 15, and Oct. 1 issues), *Library Journal*, and *Wilson Library Bulletin* for 1942. Libraries are maintaining war information centers; supplying vocational and technical materials to war industries and workers; disseminating authentic information in the fields of economics, government, history, and international relations; making available valid interpretations of the war's causes and aims; helping people to participate in postwar planning; and supplying recreational reading to relieve the strain of war. The Oct. 1, 1942 issue of the *A.L.A. Bulletin* was intended to serve as a manual of library war activities and includes a "Message to American Librarians" by Elmer Davis, director of the Office of War Information, and a booklist entitled "This Is Our War."

A series of reports, following a survey for war activities of public libraries, was begun in the *A.L.A. Bulletin* for Aug. 1942. Many undertakings, considered desirable in peacetime and precipitated by the war, have become part of the library program. Some of these activities will continue after the war.

To assist libraries in developing war information services more effectively,

a librarian has been appointed to the staff of the Office of War Information, as chief of the Library Liaison Section.

Throughout the year library facilities for land and naval forces were greatly expanded. Hundreds of trained librarians are employed and millions of dollars are being spent by the Government for two very large library systems which now serve American soldiers, sailors, and marines in nearly all parts of the world. The A.L.A. is represented on the Education Subcommittee of the Joint Army and Navy Committee on Welfare and Recreation.

Over 12,000,000 volumes have been collected through the Victory Book Campaign, with approximately half that number being suitable for use by army and navy forces at home and abroad. The campaign was sponsored jointly by the A.L.A., American Red Cross, and United Service Organizations. A second campaign was planned to open in January, 1943.

#### PATIENTS LIBRARIES

In addition to the other fields for library service the hospitals are finding increasing need for book service from which therapeutic as well as educational benefits are derived. The growing belief by medical men in the therapeutic value of reading for patients has stimulated this growth. In New York City the Hospital Library Bureau of the United Hospital Fund has developed library service in the voluntary and city hospitals through collecting books for the patients' libraries, organizing and supervising libraries in hospitals, and training volunteers. During 1942 the Bureau gave 2,857 books and 6,692 magazines to the hospitals.

#### FEDERAL RELATIONS

Close cooperation on the part of librarians and the A.L.A. was maintained during the year, especially regarding war activities. Government publications on war-related subjects are now going regularly to some thousands of libraries—4,000 librar-

## LIBRARIES

ies receive monthly packets from the Bureau of Public Inquiries of the Office of War Information, and many other government departments and bureaus.

Continued efforts were made to secure grants for public library service from the Community Facilities appropriation (Lanham Act) and for libraries of technical schools from the Federal emergency training fund.

The A.L.A. is represented on the National Resources Planning Board's Committee on the Conservation of Cultural Resources, which has issued *Protection of Cultural Resources against the Hazards of War*. A code for the protection of public buildings was also prepared. Assisted by a grant from the National Resources Planning Board, the A.L.A. Postwar Planning Committee prepared a report on standards for public libraries. These findings will be checked with existing library services in preparing plans for postwar library development.

As a member of the U. S. Office of Education Wartime Commission, the A.L.A. participated in its activities, including studies of the probable shortage of school, college, and library personnel. Close relations were maintained with the Library Service Division of the U. S. Office of Education, the Library of Congress, and the librarian of the U. S. Department of Agriculture.

### INTERNATIONAL ACTIVITIES

The development of international relations through libraries constituted one of the most important phases of A.L.A. activity throughout the year. In the spring a comprehensive survey of library activity in the field of international cultural cooperation was made, with the result that the A.L.A. Board on International Relations was formed (for a complete report see *A.L.A. Bulletin* 36: 748-59, Oct. 15, 1942). The establishment of a Board office in Washington is being considered. In the spring the Washington Office of the Committee on Library Cooperation with Latin America was closed when

the three-year Rockefeller Foundation grant was exhausted.

Outstanding Latin American projects in which the A.L.A. has assisted are: establishment of the Benjamin Franklin Library of Mexico at Mexico City, with aid from the Coordinator of Inter-American Affairs; conduct of a short library school in Bogota, Colombia, with a faculty of eight (six from the United States) and a student body of over 100, with aid from the Rockefeller Foundation and supplementary help from the U. S. Department of State; and the inauguration of a Books for Latin America Project for supplying books by United States authors to Latin American libraries, in cooperation with the Office of the Coordinator of Inter-American Affairs.

Large numbers of scholarly journals for postwar shipment to libraries abroad have been acquired by the A.L.A. Committee on Aid to Libraries in War Areas, also with Rockefeller Foundation funds.

### STATE DEVELOPMENTS

The extension of public library service to new areas continued notwithstanding the widespread demand for reduction of public expenditures for everything not directly related to the war effort.

The A.L.A. Library Extension Board believes that an extension program is warranted in total war. It bases its belief on the importance of an intelligent and informed citizenry for the triumph of democracy over totalitarianism; on the essential service in wartime that libraries at their best are rendering; on the increasing importance of reading and library service as travel and other activities are curtailed; and on the Nazi tribute to the power of books as shown by burning and suppressing them. Supporting evidence is to be found in the recognition given by the Army and Navy through the official provision of library service to the armed forces (as contrasted with their acceptance of unofficial service in 1917-18); in the backing of the Victory Book Campaign by agencies geared to war



## XXVII. EDUCATION

effort (the Red Cross and U.S.O.) as well as by many cooperating agencies; and in the inclusion of libraries in postwar planning by the National Resources Planning Board.

State planning was initiated and developed in Maryland by the State-wide Library Survey Committee of the Maryland State Planning Commission. In Iowa a *Program of Rural Library Service for Iowa* was prepared by a special committee of the state library association. A plan for a special type of regional library service was published in *The Library Quarterly* (12:571-82, July, 1942) under the title "Design for a Regional Library Service Unit."

Statewide public library development, particularly for large unit service in rural areas in Virginia, received a 1942-44 biennium appropriation of \$100,000. This is in addition to the regular state library appropriation. This new type of state aid is now given in eleven states, one territory, and two Canadian provinces. The Louisiana Library Commission received an appropriation of \$144,820 for the biennium 1942-44, about a third less than for the past biennium. However, it includes some funds for demonstrations. For continuing biennium grants, especially in North Carolina, Michigan and Pennsylvania (see *THE AMERICAN YEAR BOOK—1942* "Libraries," and for reports on these three states the *A.L.A. Bulletin* 36: 17-27, Sept. 15, 1942.) During the year *State Grants to Public Libraries*, containing up-to-date information in this field was issued by the A.L.A.

New regional library services were established in Kentucky and Tennessee (in cooperation with T.V.A.), North Carolina and Virginia. The number of county or regional libraries increased to 592 as compared to 506 in 1941.

The policy of special allocations of state aid for school library books continues in several states. In Georgia, \$150,000 was allocated for assistance to schools in the purchase of school library materials in 1942-43. In Louisiana during 1941-42, approximately

\$136,000 of state funds were used for school library books and visual aids. Tennessee budgeted \$50,000 for this purpose, the local communities matching all expenditures on an equal basis. The Virginia Legislature authorized \$150,000 a year for state aid to school libraries for the biennium 1942-43, the amount to be matched by local funds, and \$20,000 for audio-visual materials.

### SERVICE OF ESTABLISHED LIBRARIES

According to a recount made under the 1940 census, the percentage of people in the United States still without public library service was reduced to 27 per cent as compared with 34 per cent in 1938. The 27 per cent represents over 35,000,000 still without public library service and of this number 91.8 per cent are rural people. Thus, 57 per cent of the total rural population is without library service (for a complete report by state see *A.L.A. Bulletin* 36: 399-402, June, 1942.) Out of some 3,000 counties in the United States, 632 are without a single public library as compared with 897 in 1938, while only four cities of over 25,000 population lack public libraries. Library extension continues to be primarily a rural need, except in new defense areas. The *A.L.A. Bulletin* for February, 1942 carried a tabulation of college and school library statistics for 1941, and a similar tabulation for public libraries appeared in the April number.

### ADULT EDUCATION

Along with all other fields of library service adult education has joined wholeheartedly in the attempt to aid as much as possible the national efforts for war and the attainment of a permanent peace.

Among the various A.L.A. publications in which the A.L.A. Adult Education Board assisted were *What to Read in Psychology, Educational Motion Pictures and Libraries*, and *Suggestions for a Trade Union Library*. "The diffusion of Knowledge: a Memorandum" (*A.L.A. Bulletin*

## LIBRARIES

36:55-62, Sept. 1, 1942) states in part: "It seems to be beyond controversy that libraries, particularly public libraries, have a great obligation to help diffuse knowledge and build intelligence in people which is necessary if our common life is to progress beyond the tragic state of insecurity, inefficiency, and ruthless competition which is so apparent today."

Definitely encouraging is the increased interest manifested by librarians and others in the field of adult education. An inquiry about readers advisory and adult education field work service, sent in 1941 to about 500 public libraries, revealed over 70 as having formal readers advisory service.

### SURVEYS AND STUDIES

During the year many surveys, studies and reports of research activities were made in the library field, some of which have already been mentioned. A survey of *Graduate Study in Librarianship in the United States* was made and published under the direction of the Graduate Library School, University of Chicago at the request of the A.L.A. Board of Education for Librarianship.

Following are studies published by the A.L.A. Committee on Library Cooperation with Latin America; *Distribution of Scholarly Journals of the United States in Latin America*; *Books on Latin American History: A Study of Collections Available in Colleges and Universities in the United States*; *Books of Latin American Interest in Public Libraries of the United States*; and *Preliminary List of Libraries in the other American Republics*.

Considerable work was accomplished in the field of microphotography during the year. The A.L.A. Committee on Photographic Reproduction of Library Materials worked with the American Standards Association Committee Z 38, which deals with photography, and tentative standards will be published. Further work was carried on with funds obtained from the National Research Council. With the aid of a grant

from the Carnegie Corporation this committee edits *The Journal of Documentary Reproduction*, which included the following articles among important ones published during late 1941 and 1942: "Use of Microphotography in University Libraries" and "Microphotography in European Libraries," Sept. 1941; "Microphotography and the Public Records," December, 1941; "A Program for Microcopying Historical Materials," "Microphotography in Australia," and "Microfilm and the Publication of Doctoral Dissertations," March, 1942; and "A Microfilm Service in Washington, D. C.," June, 1942.

Important articles resulting from studies in the field of college and reference libraries, which were published in *College and Research Libraries*, include: "Proposal for a Cooperative Storage Library" and "College and University Libraries and National Defense," December, 1941; "The Latin American Bibliographical Activities of the Library of Congress, with Hints for Future Developments in This Field," June, 1942; and "League of Nations Publications in the Present Emergency," September, 1942.

The following are among important articles and reports of investigation in the field of library science published in *The Library Quarterly* for 1942: "Two Major Approaches to the Social Psychology of Reading," January; "Notable Materials Added to American Libraries, 1940-41," "Honors Work and the College Library," and "The Study and Practice of Government Publications," April; "Library Progress in the South, 1936-42" and "Leading American Library Collections," July; and "Professional Education for Librarianship," "Between Two Wars in the British Museum Library," and "The Bibliotheque Nationale During the Last Decade," October. (Research findings published in book form are reported below under *Publications*.)

### LIBRARY TRAINING AND PERSONNEL

The impact of the war gave new

meaning to the fact that libraries can be no better than their staffs, and new significance to maintaining and improving the professional education of librarians. At the request of the U. S. Office of Education Wartime Commission, A.L.A. assembled information on the shortage of librarians (see *A.L.A. Bulletin* 36:384-86, June 1942.)

A heavy turnover in library staff members affected the clerical and subprofessional services much earlier than the professional staff. From all parts of the country, however, came evidence that a shortage in professional librarians had only begun and could be expected to total 1,000 to 1,200 librarians within the next year. Conditions contributing to this shortage were similar to those affecting other professions—the over-all shortage of personnel in civilian activities, a decrease in enrolment in the library schools in 1942 and applications for enrolment in 1943, the induction of men librarians into the armed forces, the appointment of women librarians to camp libraries and branches of the service, and the scarcity of qualified unemployed librarians owing to the generally high record of placement of library school graduates in recent years.

Measures to accelerate the preparation of new librarians under emergency conditions without lowering standards, became the immediate concern of library schools with the result that many programs and schedules were changed and curricula shifted. State groups continued their study of the training of teacher-librarians, and many libraries, library schools, and state library associations conducted in-service-training institutes.

About 1,250 students were graduated from the 32 accredited library schools during 1942, and of these, approximately 60 received degrees for more than one year of graduate study.

The growing importance of a knowledge of Spanish and Portuguese on the part of librarians was recognized during the year and the need for library institutes and study

groups on the history, social conditions, education and government of Latin American countries is being considered. An international experiment in the education of librarians was conducted during the summer of 1942 when courses were given at the National Library of Colombia, at Bogota, Colombia, under the joint sponsorship of the Colombian Ministry of Education and the A.L.A.

#### GIFTS, GRANTS AND BUILDINGS

Gifts of money, rare collections and property from individuals, and grants from the Carnegie Corporation, Rockefeller Foundation, and others continued to advance libraries and library service during the year. Among the gifts or bequests from individuals were: \$350,000 from Mrs. Harriet Turner Burnham to the Free Public Library, Glastonbury, Conn.; \$100,000 from Mrs. George H. Brown for a library building at Washington, N. C.; \$50,000 from Miss Agnes H. Anderson to the Public Library, Shelton, Wash.; \$22,000 from Richard W. Bates for a Bates Library, Contoocook, N. H.; \$20,000 from Bradley W. Fenn to the Public Library, Interlaken, N. Y.; \$35,000 from Frederick Leighton to the City Library, Oswego, N. Y.; \$18,000 from Frederick W. Judd to the Cleveland Public Library; \$20,000 from Mrs. Albert C. Brown to China, Maine, for a library building.

During the year many gifts of rare books and private collections were made. Included were: 10,000 volumes from George Nathan Newman to the Lockwood Memorial Library, University of Buffalo; an important Walt Whitman collection from Carolyn Wells to the Library of Congress; 6,200 records and 800 music scores from Mrs. Henry W. Sackett to the Library of Brown University; 2,900 rare books and manuscripts from J. Christian Bay to the State Historical Society of Missouri; a library of 7,500 items of Judaica from Mrs. Israel Davidson to the College of the City of New York; 15,000 volumes from Richard M. Barrett to the Cardinal Hayes Library, Manhattan College;



## LIBRARIES

the manuscript notebooks of Sara Teasdale to Yale University; and the large personal library of Edwin Markham to the Library of the Wagner Memorial Lutheran College. Columbia University acquired the American Type Founders Library, largest in the United States.

While not as many new public library buildings, branches, or additions were built during 1942 as in the past few years, due in part to the withdrawal of W.P.A. funds, many libraries are now preparing plans for postwar library buildings.

College and university libraries completed or near completion include: San Jose (Calif.) State College; St. Olaf College, Northfield, Minn.; Connecticut (New London) College; Macalester College, St. Paul, Minn.; Saint Mary's College, Holy Cross, Ind.; University of Florida; University of Nebraska, Concordia College, Milwaukee, Wis.; Wilmington (Ohio) College; Carthage (Ill.) College; and Carroll College, Waukesha, Wis.

For the first time *Who's Who in America* 1942-43 initiated citations commemorative of gifts to American libraries.

### AMERICAN LIBRARY ASSOCIATION

The officers of the Association for the year 1942-43 are: president, Keyes D. Metcalf, Harvard University Library, Cambridge, Mass.; first vice president and president-elect, Althea H. Warren, Los Angeles Public Library; second vice-president, Clarence E. Sherman, Providence (R. I.) Public Library; and treasurer, Rudolph H. Gjelsness, Department of Library Science, University of Michigan, Ann Arbor. The executive secretary is Carl H. Milam, and the A.L.A. maintains headquarters at 520 N. Michigan Avenue, Chicago. About 16,000 librarians, library trustees, and individuals interested in library service are members of A.L.A. which was organized in 1876 to promote the foundation and improvement of libraries in the United States and Canada.

The usual midwinter meeting was not held in 1942 due to the war and transportation problems. However, an Institute of four sessions, dealing with libraries and the war, and post-war problems, was held for a limited group of librarians; the Executive Board met; and a one-session business meeting of the Council was scheduled in Chicago, Jan. 30-31, 1943. The Institute was planned as a demonstration to be adopted, as far as desirable, in approximately twenty regional institutes, and in a larger number of local institutes which are being planned for early 1943.

Over 2,300 librarians, library trustees, editors, publishers and friends of libraries attended the Association's 64th annual conference in Milwaukee, Wis., June 22-27, 1942. They came from every state in the Union, six Canadian provinces, seven Latin American republics, and England.

"Winning the War and the Peace: How Libraries Can Help" was the theme of the conference, which considered such activities as creating civilian understanding of war aims and issues; providing war information for the civilian population; technical books for industrial workers and students; Latin American cooperation, inter-national cultural relations, post-war planning, and securing Federal aid for libraries.

Walter D. Edmonds won the annual Newbery Medal for *The Matchlock Gun*, judged the best contribution to children's literature published during the previous year. The Caldecott Medal for the most distinguished picture book of the year was awarded to *Make Way for Ducklings* by Robert McCloskey. For the second time library trustee citations were presented. James Oliver Modisette, late chairman of the State Library Commission, Baton Rouge, La., was cited posthumously for his service to libraries over a period of years. The second citation was not given but will be presented at a future conference because the recipient could not be present. Honorary membership in the Association was conferred on Frederick P. Keppel, former presi-



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dent of the Carnegie Corporation of New York, and Theodore S. Chapman, whose law firm has acted as honorary attorneys to the A.L.A. for many years.

The Association's income in 1941-42 (excluding cash balances which were \$31,152 on Sept. 1, 1941) was \$554,800. Income from membership dues, conference, sale of publications, advertising, subscriptions, etc. was about \$193,800; \$278,000 came from outside sources in the form of grants or payments for special purposes, and \$83,000 was endowment income. The Association's endowment funds now total approximately \$2,137,000.

During the year progress was made in the organization of the Council of National Library Associations of the United States and Canada (see *A.L.A. Bulletin* 36:259-60, April 1942); and the Canadian Library Council, which is aided in its work by a three-year grant from the Rockefeller Foundation (see *A.L.A. Bulletin* 36:523, Aug. 1942.)

Among the important projects of the Association was the inauguration of a Books for Latin America Project in cooperation with the Office of the Coordinator of Inter-American Affairs, for supplying books by United States authors to Latin American libraries. Marion A. Milczewski is in charge of the project, with an office in the Library of Congress Annex, Washington, D. C.

A special study of war activities of public libraries from coast to coast was conducted during the summer months with aid from the Carnegie Corporation. Reports of this survey were published in the *A.L.A. Bulletin*, beginning with the August number. Similar surveys of war activities in

school, college, and university libraries are being considered.

### PUBLICATIONS

During the year, the A.L.A. published, through its Department of Publishing and Cooperative Services, the following: *National Defense and the Public Library*; booklists on *Training for War*, *Postwar Planning*, *Toward Understanding China*, *The Far East*, and *Religious Values and the Democratic Faith*; *The Small Public Library*; *Educational Motion Pictures and Libraries*; *Union Catalogs in the United States*; *Resources of New York City Libraries*; *The Choice of Editions*; *Current National Bibliographies*; *Subject Guide to Reference Books*; *Public Documents and World War II*; *Basic Book Collection for High Schools and Organization and Administration of Library Service to Children*. The Association also issues the following periodicals: *A.L.A. Bulletin*, *The Booklist*, *College and Research Libraries*, *Journal of Documentary Reproduction*, *Hospital Book Guide*, and *Subscription Books Bulletin*.

Among books in the field produced by other publishers were: Bibliographical Planning Committee of Philadelphia, *Philadelphia Libraries*; Brewton and Brewton, *Index to Children's Poetry*; Dewey, *Decimal Classification and Relative Index*, 14th Ed.; Fenner, *"Our Library"*; Fussler, *Photographic Reproduction for Libraries*; Gleason, *The Southern Negro and the Public Library*; Salamanca, *Fortress of Freedom, the Story of the Library of Congress*; Sandoe, *County Library Primer*; Special Library Association, *Special Library Resources*, and Waples, *Print, Radio and Film in Democracy*.

### PERIODICAL PUBLICATIONS

*American Teacher*

506 South Wabash Ave., Chicago.

*Annals, The*

American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

*Business Education World*

270 Madison Ave., New York City.

*Child Study*

221 West 57th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

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| <p><i>Education</i><br/>370 Atlantic Ave., Boston.</p> <p><i>Educational Method</i><br/>1201 Sixteenth Street, N.W., Washington, D. C.</p> <p><i>Educational Record</i><br/>744 Jackson Place, Washington, D. C.</p> <p><i>Industrial Arts and Vocational Education</i><br/>407 E. Michigan Street, Milwaukee, Wis.</p> <p><i>International Journal of Religious Education</i><br/>203 North Wabash Ave., Chicago.</p> <p><i>Journal of Adult Education</i><br/>60 East 42nd Street, New York City.</p> <p><i>Journal of Business Education</i><br/>512 Brooks Building, Wilkesbarre, Pa.</p> <p><i>Journal of Education</i><br/>6 Park Street, Boston.</p> <p><i>Journal of Educational Psychology</i><br/>10 East Centre Street, Baltimore, Md.</p> <p><i>Journal of Educational Sociology</i><br/>32 Washington Place, New York City.</p> <p><i>Journal of Engineering Education</i><br/>University of Pittsburgh, Pittsburgh, Pa.</p> <p><i>Journal of Geography</i><br/>3333 Elston Ave., Chicago.</p> <p><i>Journal of Higher Education</i><br/>Ohio State University, Columbus, Ohio.</p> <p><i>Journal of the National Education Association</i><br/>1201 Sixteenth Street N.W., Washington, D. C.</p> | <p><i>Journal of Negro Education</i><br/>Howard University, Washington, D. C.</p> <p><i>Journal of Physical Education</i><br/>Dayton, Ohio.</p> <p><i>Junior College Journal</i><br/>744 Jackson Place, Washington, D. C.</p> <p><i>Library Journal</i><br/>62 West 45th Street, New York City.</p> <p><i>Library Quarterly</i><br/>5750 Ellis Ave., Chicago.</p> <p><i>National Parent Teacher</i><br/>1201 Sixteenth Street, N.W., Washington, D. C.</p> <p><i>National Student Mirror</i><br/>8 West 40th Street, New York City.</p> <p><i>Occupations</i><br/>551 Fifth Ave., New York City.</p> <p><i>Parents' Magazine</i><br/>52 Vanderbilt Ave., New York City.</p> <p><i>Peabody Journal of Education</i><br/>George Peabody College for Teachers, Nashville, Tenn.</p> <p><i>Pitman's Journal</i><br/>2 West 45th Street, New York City.</p> <p><i>Progressive Education</i><br/>310 West 90th Street, New York City.</p> <p><i>Religious Education</i><br/>59 East Van Buren Street, Chicago.</p> <p><i>School Management</i><br/>52 Vanderbilt Ave., New York City.</p> <p><i>School Review</i><br/>5835 Kimbark Ave., Chicago.</p> <p><i>World Federation News</i><br/>1201 Sixteenth Street, N.W., Washington, D. C.</p> |
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## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### GENERAL

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| <p>AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut Street, Philadelphia.</p> <p>AMERICAN ASSN. FOR ADULT EDUCATION, 525 W. 120th St., New York City.</p> <p>AMERICAN COUNCIL ON EDUCATION, 744 Jackson Pl., N.W., Washington, D. C.</p> | <p>AMERICAN COUNCIL OF LEARNED SOCIETIES, 907 15th St., N.W., Washington, D. C.</p> <p>AMERICAN FEDERATION OF TEACHERS, 506 S. Wabash Ave., Chicago, Ill.</p> <p>GENERAL EDUCATION BOARD, 49 W. 49th St., New York City.</p> <p>BUREAU OF EDUCATIONAL REFERENCE AND RESEARCH, University of Michigan, Ann Arbor, Mich.</p> |
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NATIONAL CONGRESS OF PARENTS AND TEACHERS, 600 S. Michigan Blvd., Chicago, Ill.

NATIONAL COUNCIL OF EDUCATION, Teachers College, Columbia University, New York City.

NATIONAL EDUCATION ASSN. OF THE U. S. A., 1201 16th St., N.W., Washington, D. C.

NATIONAL RESEARCH COUNCIL, DIVISION OF EDUCATIONAL RELATIONS, 2101 Constitution Ave., N.W., Washington, D. C.

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION, University of Minnesota, Minneapolis, Minn.

PUBLIC EDUCATION ASSN., 745 Fifth Ave., New York City.

### INTERNATIONAL

INSTITUTE OF INTERNATIONAL EDUCATION, 2 W. 45th St., New York City.

INTERNATIONAL COUNCIL FOR THE EDUCATION OF EXCEPTIONAL CHILDREN, 3 E. 25th St., Baltimore, Md.

INTERNATIONAL COUNCIL OF RELIGIOUS EDUCATION, 297 Fourth Ave., New York City.

PAN-AMERICAN EDUCATIONAL CONGRESS, Universidad de Chile, Cosilla 2543, Santiago, Chile.

### TEACHERS

AMERICAN FEDERATION OF TEACHERS, 506 S. Wabash Ave., Chicago, Ill.

CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING, 522 Fifth Ave., New York City.

EDUCATORS ASSN., INC., 307 Fifth Ave., New York City.

NATIONAL STUDENT FEDERATION OF AMERICA, 8 W. 40th St., New York City.

STUDENTS INTERNATIONAL UNION, INC., 522 Fifth Ave., New York City.

TEACHERS UNION OF THE CITY OF NEW YORK, 13 Astor Pl., New York City.

### SCHOOLS

AMERICAN SCHOOL CITIZENSHIP LEAGUE, 295 Commonwealth Ave., Boston, Mass.

CHILD STUDY ASSN. OF AMERICA, INC., 221 W. 57th St., New York City.

NATIONAL ASSN. OF HIGH SCHOOL SUPERVISORS AND INSPECTORS, State Department of Education, Columbus, Ohio.

NATIONAL ASSN. OF SECONDARY SCHOOL PRINCIPLES, 5835 Kimbark Ave., Chicago, Ill.

NATIONAL KINDERGARTEN ASSN., 8 W. 40th St., New York City.

Y.M.C.A. EDUCATIONAL SECRETARIES ASSN., 55 Hanson Pl., Brooklyn, New York City.

### COLLEGES AND UNIVERSITIES

AMERICAN ASSN. OF COLLEGIATE REGISTRARS, George Peabody College for Teachers, Nashville, Tenn.

AMERICAN ASSN. OF JUNIOR COLLEGES, 730 Jackson Pl., Washington, D. C.

AMERICAN ASSN. OF UNIVERSITY PROFESSORS, 1155 16th St., N.W., Washington, D. C.

AMERICAN ASSN. OF UNIVERSITY WOMEN, 1634 I St., N.W., Washington, D. C.

ASSOCIATION OF AMERICAN COLLEGES, 19 W. 44th St., New York City.

ASSOCIATION OF AMERICAN UNIVERSITIES, Yale University, New Haven, Conn.

ASSOCIATION OF COLLEGES FOR NEGRO YOUTH, Fisk University, Nashville, Tenn.

ASSOCIATION OF LAND GRANT COLLEGES AND UNIVERSITIES, c/o Experiment Station, Lexington, Ky.

COLLEGE ENTRANCE EXAMINATION BOARD, 431 W. 117th St., New York City.

NATIONAL ASSN. OF STATE UNIVERSITIES, Miami University, Oxford, Ohio.

NATIONAL UNIVERSITY EXTENSION ASSN., Indiana University, Bloomington, Ind.

NEW ENGLAND ASSN. OF COLLEGES AND SECONDARY SCHOOLS, Tufts College, Medford, Mass.

PHI BETA KAPPA, UNITED CHAPTERS OF, 12 E. 44th St., New York City.

SIGMA PSI, 149 Broadway, New York City.

### PROFESSIONAL EDUCATION

AMERICAN ASSN. OF TEACHERS COLLEGES, State Normal School, Oneonta, New York.

AMERICAN MEDICAL ASSN., Council on Medical Education and Hospitals, 535 N. Dearborn St., Chicago, Ill.

ASSOCIATION OF AMERICAN LAW

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

SCHOOLS, University of Indiana, Bloomington, Ind.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, 5 S. Wabash Ave., Chicago, Ill.

SECTION OF LEGAL EDUCATION, AMERICAN BAR ASSN., 1140 N. Dearborn St., Chicago, Ill.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION, University of Pittsburgh, Pittsburgh, Pa.

### SPECIAL EDUCATION

AMERICAN ASSN. TO PROMOTE TEACHING OF SPEECH TO THE DEAF, School for the Deaf, Staunton, Va.

AMERICAN HUMANE EDUCATION SOCIETY, 180 Longwood Ave., Boston, Mass.

AMERICAN PHYSICAL EDUCATION ASSN., 311 Maynard St., Ann Arbor, Mich.

NATIONAL ASSN. OF THE DEAF, 3633 E. Tremont Ave., New York City.

### VOCATIONAL

AMERICAN ASSN. FOR THE ADVANCEMENT OF AGRICULTURAL TEACHING, Iowa State College, Ames, Ia.

AMERICAN HOME ECONOMICS ASSN., 620 Mills Bldg., Washington, D. C.

AMERICAN VOCATIONAL ASSOCIATION, 1010 Vermont Ave., N.W., Washington, D. C.

NATIONAL VOCATIONAL GUIDANCE ASSN., 25 Lawrence Hall, Harvard University, Cambridge, Mass.

WORKERS EDUCATIONAL BUREAU OF AMERICA, Machinists Bldg., Washington, D. C.

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NOTE: For additional educational societies consult U. S. OFFICE OF EDUCATION, Washington, D. C.



## NECROLOGY FOR 1942

### NECROLOGY FOR 1942

- ABLANOS, DR. NICHOLAS, Greek archaeologist, 83, Sept. 22.  
 ADAMS, DR. FRANK D., Canadian educator and geologist, 84, Dec. 26.  
 ADDAMS, CLIFFORD I., artist, 66, Nov. 7.  
 AGGIMAN, JACQUES N., civil engineer and builder, 50, July 22.  
 AINSWORTH, DR. WILLIAM N., Methodist bishop and educator, 70, July 7.  
 ALBEMARLE, 8TH EARL OF, British soldier, 83, April 11.  
 ALVEAR, DR. MARCELO T. DE, former President of Argentina, 73, March 23.  
 AMATO, PASQUALE, Italian baritone, 63, Aug. 12.  
 AMULREE, LORD (W. W. Mackensie), British expert on industrial arbitration, 82, May 5.  
 ANDERSON, MAJOR GEN. ALEXANDER E., 53, Dec. 24.  
 ANDERSON, DR. DICE R., educator, 62, Oct. 23.  
 AOSTA, PRINCE AMEDEO, DUKE OF, former Italian Viceroy of Ethiopia, 43, March 3.  
 ARANGO, CARMELO, Colombian statesman, diplomat, jurist, 88, Feb. 9.  
 ARAUJO, DR. MIGUEL ANGEL, Foreign Minister of El Salvador, Aug. 1.  
 ARNOLD, BION J., consulting engineer, 80, Jan. 29.  
 ASCHER, LEO, Austrian Composer, 61, Feb. 25.  
 ATKINSON, SAMUEL CARTER, Georgia jurist, 78, Oct. 5.  
 ATTOLICO, BERNARDO, Italian diplomat, 62, Feb. 9.  
 BAILEY, VERNON, naturalist, 78, April 20.  
 BAILLET-LATOUR, COMTE HENRI DE, Belgian sports leader, 67, Jan. 7.  
 BALLIETT, DR. T. M., educator, 90, Feb. 18.  
 BARCELO, JOSE R., Cuban diplomat, Oct. 25.  
 BARNUM, MAJOR GEN. MALVERN-HILL, U. S. A., 78, Feb. 18.  
 BARRON, GEORGE H., antiquarian and educator, 72, June 24.  
 BARSTOW, WILLIAM S., electrical engineer, public utility leader, philanthropist, 76, Dec. 26.  
 BARRYMORE, JOHN, actor, 60, May 29.  
 BARTON, REV. DR. GEORGE A., clergyman and Bible scholar, 83, June 28.  
 BAUDRILLART, ALFRED, Cardinal, French churchman and author, 83, May 18.  
 BAYARD, THOMAS F., former U. S. Senator (Del.), 74, July 12.  
 BEAUMONT, BRIG. GEN. JOHN C., U. S. Marine Corps Commander, 63, April 12.  
 BEAUX, CECILIA, portrait artist, Sept. 17.  
 BECKET, DR. FREDERICK M., metallurgist, 67, Dec. 1.  
 BELLAMY, JOHN D., lawyer and former Congressman, (N. C.), 88, Sept. 25.  
 BENNETT, PHILIP A., Congressman (Mo.), 61, Dec. 5.  
 BENNY, ALLAN, former Congressman (N. J.) 75, Nov. 6.  
 BENRIMO, J. HARRY, actor and playwright, 67, March 26.  
 BERCHTOLD, COUNT LEOPOLD VON, former Foreign Minister of Austria, 79, Nov. 21.  
 BERKELEY, 8TH EARL OF, 76, Jan. 15.  
 BERR, GEORGES, French actor and playwright, 76, July 21.  
 BERRY, MARTHA McCHESNEY, founder of the Berry School in Georgia, 75, Feb. 27.  
 BERRY, BRIGADIER GENERAL SCHOFIELD, Marines commander, 60, Aug. 24.  
 BESIEN, RUDOLF, British dramatist, 63, June 15.  
 BESSER, DR. HERMAN, radiologist, 72, Oct. 4.  
 BILLINGTON, ROSE ANN, suffragist, 83, Oct. 12.  
 BILLWILLER, MRS. HENRIETTA HUDSON, color-art pioneer, 79, April 2.  
 BIRKETT, BRIG. GEN. H. S., Canadian physician, educator, and soldier, 78, July 19.  
 BISBEE, BRIG. GEN. WILLIAM H., soldier, 102, June 11.  
 BLAKELY, REAR ADMIRAL JOHN R. Y., 69, March 28.

## NECROLOGY FOR 1942

- BLANCHE, JACQUES EMILE, French portrait painter, 81, Oct. 3.
- BLEASE, COLE L., former U. S. Senator, (S. C.) 73, Jan. 19.
- BLOMFELD, SIR REGINALD, British architect, 86, Dec. 28.
- BLOOD, HENRY H., former governor of Utah, 69, June 19.
- BOAS, DR. FRANZ, anthropologist, 84, Dec. 21.
- BOE, REV. DR. LARS W., Lutheran clergyman and educator, 67, Dec. 27.
- BOGGIANI, TOMMASO PIO, Cardinal, Chancellor of the Roman Church, 79, Feb. 26.
- BOLAND, PATRICK J., Congressman (Penn.), 62, May 18.
- BOLTON, CHARLES W., church architect, 87, Nov. 15.
- BOND, JESSIE, English singer and Savoyard, 89, June 17.
- BOOTH, MRS. SAVILLA KING, carillonneur at Valley Forge, 37, Sept. 15.
- BORGES, DR. ESTEBAN GIL, Venezuelan diplomat and statesman, 63, Aug. 3.
- BORNO, LOUIS, former President of Haiti, 76, July 29.
- BOSCARELLI, RAFFAELE, Italian Ambassador to Argentina, 57, April 23.
- BOSCH, DR. ROBERT, German magneto inventor, 81, March 12.
- BOSTWICK, DR. ARTHUR E., St. Louis librarian, 82, Feb. 13.
- BOSWELL, HELEN VARICK, suffrage leader, 78, Jan. 5.
- BOULE, PROF. MARCELLIN, French paleontologist, 72, July 19.
- BOURTZEFF, VLADIMIR LVOVITCH, Russian historian, 79, Oct. —.
- BOYCE, WILLIAM H., jurist and former Congressman (Del.), 86, Feb. 6.
- BOYER, LUCIEN, French music hall singer, 66, June 16.
- BRADEN, COL. WILLIAM, mining engineer and copper industrialist, 71, July 18.
- BRAGG, SIR WILLIAM H., British physicist, 79, March 12.
- BRESSLER, DAVID M., Jewish welfare leader, 63, Dec. 16.
- BREWER, EARL LEROY, former Governor of Mississippi, 72, March 10.
- BREWSTER, MAJOR GEN. ANDRÉ WALKER, 79, March 27.
- BRIGHT, CASPAR W., photographer and motion picture pioneer, 96, July 10.
- BRINTON, CHRISTIAN, art critic and lecturer, 71, July 14.
- BRISTOL, VICE ADMIRAL ARTHUR L., naval aviation expert, 55, April 20.
- BROUGHAM, FRANCES E. L., Canadian singer, 73, Oct. 26.
- BROWN, DR. WADE HAMPTON, pathologist, 63, Aug. 4.
- BROWNING, DR. WEBSTER E., missionary leader, 73, April 16.
- BRUCE, ROBERT R., Canadian diplomat and mining industrialist, 80, Feb. 21.
- BRUHL, J. BURLEIGH, British artist, 80, Jan. 30.
- BRYANT, PROF. ERNEST C., astronomer and physicist, 75, Sept. 7.
- BUCK, FRANK H., Representative in Congress, (Calif.), 54, Sept. 17.
- BUCKNER, MORTIMER N., banker and philanthropist, 68, Feb. 25.
- BUCKNER, THOMAS A., insurance executive, 77, Aug. 8.
- BULLOWA, EMILIE M., founder of National Association of Women Lawyers, 73, Oct. 25.
- BYRNE, DR. JAMES, lawyer, 85, Nov. 4.
- CADLE, E. HOWARD, evangelist, 58, Dec. 20.
- CAIRNS, HUGH, sculptor, 81, Dec. 9.
- CALLAGHAN, REAR ADMIRAL DANIEL JUDSON, 52, Nov. 13.
- CALLAN, BRIG. GEN. LUKE H., Sept. 9.
- CALVÉ, EMMA, French operatic singer, 76, Jan. 6.
- CAMDEN, JOHNSON N., former U. S. Senator (Ky.), 77, Aug. 16.
- CAPABLANCA, JOSÉ RAOUL, Cuban chess master, 53, March 8.
- CARBONERO, JOSÉ MORENO, Spanish painter, 82, April 15.
- CARLILE, SIR HILDRED, British Unionist M. P., 90, Sept. 25.
- CARLILE, REV. DR. WILSON, British clergyman, "Archbishop of the Gutter," 95, Sept. 25.
- CARLISLE, FLOYD L., public utilities leader, 61, Nov. 9.
- CARMICHAEL, DR. THOMAS H., physician and educator, 84, Oct. 9.
- CARR, WILBUR J., foreign service aide and diplomat, 71, June 26.
- CARTIER, LOUIS J., French jeweler and art collector, 67, July 23.

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- CARVATH, DR. HECTOR RUSSELL, electrochemist, 69, Sept. 17.
- CHAMBERS, DR. RAYMOND W., educator and author, 67, April 23.
- CHAMPION, PIERRE, French critic and historian, 64, June 29.
- CHANLER, LEWIS STUYVESANT, lawyer and public official, 72, Feb. 28.
- CHAPIN, DR. HENRY DWIGHT, pediatrics authority, 85, June 27.
- CHAPLYGIN, SERGEI, Russian scientist, 74, Oct. 8.
- CHEATHAM, REAR ADMIRAL JOSEPH J., 70, Sept. 8.
- CHERRY, ADDIE, vaudeville star, 83, Oct. 25.
- CHIANG TSO-PIN, Chinese diplomat, 60, Dec. 24.
- COHAN, GEORGE M., actor, 64, Nov. 5.
- COLBY, NATHALIE SEDGWICK, novelist, 67, June 10.
- COMSTOCK, NANETTE, actress, 68, June 22.
- CONKLIN, PROF. EDMUND S., psychologist, 58, Oct. 6.
- CONNAUGHT, PRINCE ARTHUR, DUKE OF, last surviving son of Queen Victoria, 91, January 16.
- COOK, WILLIAM L., Tennessee jurist, 72, March 5.
- COOK, WILLIS C., lawyer, diplomat, publisher, 67, Jan. 4.
- COOKE, HARTE, Diesel engineer, 71, Dec. 14.
- COOPER, SIR EDWIN, English architect, 69, June 24.
- CORDOBA, MATHILDE DE, portrait etcher, 71, July 1.
- CORRIGAN, MOST REV. JOSEPH M., Roman Catholic bishop and educator, 63, June 9.
- COUPER, WILLIAM, sculptor, 88, June 23.
- COVERT, REV. DR. WILLIAM CHALMERS, Presbyterian clergyman and leader, 77, Feb. 4.
- COVINGTON, J. HARRY, Federal jurist, 71, Feb. 4.
- CRAIN, THOMAS C. T., N. Y. State jurist, 82, May 29.
- CRAM, RALPH ADAMS, architect, 78, Sept. 22.
- CREMONESI, FILIPPO, former Governor of Rome, Italy, 70, May 17.
- CREWS, LAURA HOPE, actress, 62, Nov. 13.
- CRISSINGER, DANIEL R., former governor of Federal Reserve Board, 81, July 12.
- CROZIER, MAJOR GEN. WILLIAM, military engineer and ordnance designer, 87, Nov. 10.
- CRUZE, JAMES, motion picture director, 58, Aug. 3.
- CUNNINGHAM, JESSE B., Pennsylvania jurist, 74, Dec. 6.
- CURRAN, CHARLES C., artist, 81, Nov. 9.
- CURTIS, DR. HEBER D., astronomer, 69, Jan. 8.
- CUSHING, OTHO, illustrator and cartoonist, 71, Oct. 13.
- DALTON, CHARLES, actor, 77, June 11.
- DANDURAND, RAOUL, Canadian statesman and legislator, 80, March 11.
- DARLAN, JEAN FRANCOIS, French admiral and former Vichy Vice Premier, 61, Dec. 24.
- DAUBAN, MADAME JEANNE, French-American educator, 70, June 26.
- DAUDET, LEON, French royalist editor and writer, 75, July 1.
- DAVIES, ANNA F., social worker and feminist leader, Nov. 18.
- DAVIS, DR. BOOTHE COLWELL, educator, 78, Jan. 16.
- DAVIS, BRIG. GEN. DAVID J., former Lieut. Governor of Pennsylvania, 72, Nov. 19.
- DAVIS, J. FRANK, novelist and playwright, 71, April 6.
- DAVIS, ROBERT H., journalist, 73, Oct. 11.
- DAVIS, WESTMORELAND, former Governor of Virginia, 83, Sept. 2.
- DELAVAN, DR. DAVID B., laryngologist, 92, May 23.
- DE LEE, DR. JOSEPH B., obstetrician, 72, April 2.
- DEMING, EDWIN W., painter and sculptor, 82, Oct. 15.
- DEMOREST, LIEUT. MAX H., glaciologist, 32, Nov. 30.
- DENISON, ARTHUR C., Federal jurist, (O.), 80, May 27.
- DE OLIVEIRA, PAUL REGIS, Brazilian diplomat, 67, July 9.
- D'ESPEREY, FRANCHET, Marshal of France, 86, July 8.
- DEWEY, DR. DAVIS R., economist and educator, 84, Dec. 13.
- DITMARS, DR. RAYMOND L., naturalist, 65, May 12.

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- DMITRI, GRAND DUKE, 50, March 6.  
DODGE, DR. RAYMOND, psychologist, 71, April 8.  
DOERSAM, CHARLES H., organist and composer of church music, 63, July 14.  
DONNELL, LUCY WALKER, pioneer nurse, 82, March 19.  
DOSTER, DR. JAMES J., educator, 68, Oct. 21.  
DOTEN, PROF. CARROLL W., economist, 71, June 14.  
DUNCAN, MALCOLM, actor, 60, May 2.  
DUNEDIN, VISCOUNT, Scottish Lord of Appeal, 92, Aug. 22.  
DUNN, MATTHEW A., former Congressman (Penn.), 56, Feb. 13.  
DUNWOODY, REAR ADMIRAL FRANCIS M., 86, Sept. 19.  
DU PONT, FRANCIS I., research chemist, 68, March 16.  
EATON, REV. DR. EDWARD, clergyman and educator, 91, June 18.  
EBERLE, ABASTENIA ST. LEGER, sculptress, 63, Feb. 26.  
EGUREN, JOSÉ MARIA, Peruvian poet, 59, April 19.  
EICHHEIM, DR. HENRY, conductor and composer, 72, Aug. 22.  
EITEL FRIEDRICH, PRINCE, second son of late Kaiser Wilhelm II, 59, Dec. 7.  
ELLIOTT, DR. JOHN LOVEJOY, social welfare leader, 73, April 12.  
ELLSLER, EFFIE, actress, 87, Oct. 8.  
ENGEL, KURT, Austrian pianist, 32, Jan. 22.  
ENSOR, JAMES, BARON, Belgian painter, 82, Dec. 18.  
EPSTEIN, ABRAHAM, social security advocate, 50, May 2.  
ESSARY, J. FRED, journalist, 60, March 11.  
ESTILL, MARY A. BARBER, Salvation Army pioneer, 79, Oct. 10.  
ESTRADA, GEN. ENRIQUE, Mexican leader, 53, Nov. 3.  
EVANS, JOHN G., former Governor of South Carolina, 78, June 26.  
EWING, THOMAS, patent lawyer, 80, Dec. 7.  
FARRAND, DR. WILSON, educator, 80, Nov. 4.  
FAUROT, JOSEPH A., fingerprint identification pioneer, 70, Nov. 20.  
FAWCETT, DR. EDWARD, British anatomist, 75, Sept. 22.  
FEILER, DR. ARTHUR, economist and educator, 62, July 11.  
FELL, DR. THOMAS, educator, 91, April 13.  
FELLOWS, DR. GEORGE EMORY, educator, 83, Jan. 14.  
FERGUSON, BYRON D., Indian fighter, 93, Jan. 6.  
FERRERO, GUGLIELMO, Italian historian, 71, Aug. 4.  
FEUERMANN, EMANUEL, Austrian violinist, 39, May 25.  
FIELD, RACHEL, novelist, 47, March 15.  
FIGNER, VERA, Russian feminist, 90, June 16.  
FIMMEN, EDO, Dutch Labor leader, 61, Dec. 14.  
FINDLAY, ALEXANDER H., U. S. golf pioneer, 76, April 16.  
FINK, THEODORE, Australian, publicist and writer, 86, April 26.  
FINNEY, DR. JOHN M. T., surgeon, 78, May 30.  
FISHER, ALBERT, pioneer automobile manufacturer, 78, March 15.  
FISHER, ROBERT T., former Harvard football player and coach, 53, July 7.  
FISKE, REAR ADMIRAL BRADLEY A., naval inventor and author, 87, April 6.  
FISKE, RT. REV. CHARLES, Episcopal Bishop of Central New York, 73, Jan. 8.  
FISKE, HARRISON GREY, theatrical producer, 81, Sept. 2.  
FITZPATRICK, SIR CHARLES, Canadian jurist, 90, June 17.  
FLANNAGAN, JOHN BERNARD, sculptor, 46, Jan. 6.  
FLEISCHER, GEN. CARL GUSTAVE, commander of Norwegian forces in Canada, 59, Dec. 19.  
FLEMING, ROBINS, structural engineer, 86, Nov. 2.  
FLICK, DR. ALEXANDER C., historian, 72, July 30.  
FLICKINGER, PROF. ROY C., classical scholar, 65, July 6.  
FOKINE, MICHEL, Russian choreographer, 62, Aug. 23.  
FOOTE, PROF. HARRY WARD, analytical chemist, 66, Jan. 14.  
FORRESTER, DR. CLAUDE R. G., surgeon, 62, Feb. 28.  
FORSHEW, REAR ADMIRAL ROBERT P., 83, Dec. 10.



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- FORTESCUE, BRIG. GEN. F. A., British soldier, 84, Oct. 13.
- FOX, A. MANUEL, economist, 53, June 21.
- FOX, DR. HERBERT, pathologist, 61, Feb. 27.
- FRANCKENSTEIN, BARON CLEMENS VON, German composer, 67, Aug. 22.
- FRANKLIN, REAR ADMIRAL WILLIAM BUEL, 74, Sept. 14.
- FRAUNTHAL, DR. HERMAN C., surgeon and X-ray pioneer, 75, Aug. 23.
- FREDERICK, CHARLES W., aerial photography pioneer, 72, Nov. 29.
- GAGNON, CLARENCE A., Canadian artist, 60, Jan. 5.
- GALE, DR. HENRY GORDON, physicist, 68, Nov. 16.
- GARFIELD, DR. HARRY A., educator, son of President Garfield, 79, Dec. 12.
- GARRATT, GEOFFREY T., British author, 54, May 1.
- GARRETT, JOHN W., former Ambassador to Italy, 70, June 26.
- GAULT, BENJAMIN T., ornithologist, 83, March 20.
- GENTHE, DR. ARNOLD, photographer, 73, Aug. 9.
- GEST, MORRIS, director and producer, 61, May 16.
- GEYELIN, DR. HENRY RAWLE, physician and pioneer in insulin treatment, 58, Sept. 7.
- GIBBS, GEORGE, novelist and painter, 72, Oct. 10.
- GILMORE, PROF. JOHN W., educator and agronomist, 70, June 25.
- GLICENSTEIN, ENRICO, Polish-American sculptor and etcher, 72, Dec. 30.
- GOLDBERG, ABRAHAM, Zionist leader, 58, June 5.
- GOLDWATER, DR. SIGISMUND S., medical and hospital authority, 69, Oct. 22.
- GORDON, DR. GEORGE STUART, president of Magdalen College, Oxford, 61, March 12.
- GORTNER, DR. ROSS A., biochemist, 57, Sept. 30.
- GOS, ALBERT, Swiss artist, 90, June 24.
- GOTCH, JOHN A., British architect, 89, Jan. 17.
- GOTTESMAN, MENDEL, philanthropist, 83, Dec. 16.
- GRANT, DR. ELIHU, archaeologist and educator, 69, Nov. 2.
- GRAVES, DAVID B., former Governor of Alabama, 68, March 14.
- GRAVES, MARK, New York State tax expert and official, 64, June 1.
- GRAY, EDWARD WINTHROP, former Congressman (N. J.), 71, June 10.
- GREENSHIELDS, A. A. E., Chief Justice of Quebec, 82, Sept. 28.
- HACKETT, CHARLES, tenor, 52, Jan. 1.
- HAIGHT, THOMAS GRIFFITH, jurist, 62, Jan. 26.
- HALSEY, RICHARD T. H., antiquarian and author, 76, Feb. 7.
- HAMILTON, COSMO, British author, 70, Oct. 14.
- HAMILTON, FRANCIS M., Ohio jurist, 71, Dec. 7.
- HAMILTON, HALE, actor, 62, May 19.
- HANSON, COMMANDER MALCOLM M., radio man on Byrd Antarctic Expedition (1928-30) 47, Aug. —.
- HARLEY, JOSEPH E., Governor of South Carolina, 61, Feb. 27.
- HARPER, THEODORE A., author, 76, May 6.
- HARRINGTON, DR. VERNON, author and philosopher, 71, Nov. 18.
- HASBROUCK, GILBERT D. B., New York State jurist, 82, June 5.
- HASKELL, MRS. MARGARET RIKER, Collector of antiques, 78, Sept. 17.
- HAULTAIN, SIR FREDERICK, Canadian jurist and statesman, 84, Jan. 30.
- HEGLON, MEYRIANE, French singer, 75, Jan. 12.
- HELLMANN, FRED, mining engineer, 79, July 28.
- HENDERSON, DR. LAWRENCE J., scientist and educator, 64, Feb. 10.
- HENDERSON, SIR NEVILLE, British diplomat, 60, Dec. 29.
- HERO, MAJOR GEN. ANDREW, Coast Artillery officer, 74, Feb. 7.
- HERRMANN, FRANK S., artist, 76, June 25.
- HERTZ, DR. ALFRED, conductor and composer, 69, April 17.
- HERTZOG, GEN. J. B. M., former Prime Minister of Union of South Africa, 76, Nov. 21.
- HILL, SIR ENOCH, British financier, 75, May 13.
- HILLHOUSE, PROF. PERCY A., British naval architect, 73, Sept. 28.
- HIND, MISS E. CORA, Canadian editor

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- and agricultural authority, 81, Oct. 6.
- HIRSCH, DR. I. SETH, radiologist, 61, March 24.
- HITCHCOCK, LUCIUS W., painter and illustrator, 73, June 18.
- HOGAN, DR. JAMES J., vaccine authority, 70, July 14.
- HOIRIS, HOLGER, Danish-born aviator, 41, Aug. 7.
- HOLDEN, DR. LOUIS E., educator, 78, April 12.
- HOLLINS, DR. ALFRED, British organist and composer, 77, May 17.
- HOLMES, PHILLIPS, screen actor, 33, Aug. 12.
- HOLT, DR. ARTHUR E., theologian, 65, Jan. 13.
- HONESS, DR. ARTHUR P., mineralogist, 55, Dec. 17.
- HORNBLow, SR., ARTHUR, author and translator, 77, May 6.
- HORNBrook, BRIG. GEN. JAMES J., 74, Oct. 1.
- HORNE, PROF. CHARLES FRANCIS, educator, author, editor, 72, Sept. 13.
- HORTHY, STEPHEN, Vice Regent of Hungary, 38, Aug. 20.
- HORTON, GEORGE, author, diplomat, Greek scholar, 82, June 8.
- HOWE, DR. HARRISON E., chemist, 60, Dec. 10.
- HUBENY, DR. M. J., radiologist, 61, July 2.
- HUBER, REV. MOTHER MARY ROSE, co-founder of Servants for Relief from Incurable Cancer, 70, Sept. 30.
- HULETT, DR. EDWIN LEE, educator, 72, Aug. 30.
- HULL, WILLIAM E., Congressman (Ill.), 76, May 30.
- HUMPHRIES, JOHN D., Georgia jurist, 69, Oct. 22.
- HUNTER, ROBERT, sociologist and author, 68, May 15.
- HYDE, SIR CHARLES, British publisher and philanthropist, 66, Nov. 26.
- INMAN, DR. ONDRESS L., biologist, 51, July 21.
- IRWIN, ELIZABETH, educator, Oct. 16.
- JACKSON, WILLIAM H., photographer, explorer, author, 99, June 30.
- JAMES, WILL, author and painter, 50, Sept. 3.
- JAMES, DR. WILLIAM M., physician and authority in tropical diseases, 62, July 10.
- JARQUIN, DR. CARLOS BRENES, former President of Nicaragua, 55, Jan. 2.
- JAUBERT, ERNEST F., French author and translator, 86, Jan. 6.
- JERVEY, MAJOR GEN. HENRY, 76, Sept. 30.
- JENDWINE, LIEUT. GEN. SIR HUGH, British soldier, 80, Dec. 2.
- JOHNSON, CARL A., physicist, 37, March 3.
- JOHNSON, REV. DR. HERBERT SPENCER, Baptist clergyman, 75, Sept. 25.
- JOHNSON, BRIG. GEN. HUGH S., soldier and journalist, 59, April 15.
- JONES, PROF. HARRY S. V., educator and author, 63, Jan. 10.
- JONES, REV. DR. JOHN D., British Congregational clergyman, 77, April 19.
- KAHN, ALBERT, architect and engineer, 73, Dec. 8.
- KARINSKA, DAME MARIA, Russian singer and composer, 56, Jan. 14.
- KARNEBEEK, DR. HERMAN ADRIAAN, Dutch statesman and diplomat, 67, April 2.
- KARSLAKE, LIEUT. GEN. SIR HENRY, British soldier, 63, Oct. 19.
- KEARNEY, PEADAR, composer of Eire's national anthem, Nov. 24.
- KELLOGG, HENRY T., New York State jurist, 73, Sept. 6.
- KENT, ADA HOWE, artist and philanthropist, 84, June 29.
- KENT, PRINCE GEORGE, DUKE OF, 39, Aug. 25.
- KENT, SIDNEY R., film executive, 56, March 19.
- KIEL, HENRY W., former Mayor of St. Louis, 71, Nov. 26.
- KIMBALL, DR. GRACE N., physician and missionary, 87, Nov. 17.
- KING, DR. LE ROY A., educator, 55, June 5.
- KINGSLEY, WILLIAM MORGAN, financier, 78, Sept. 7.
- KIRCHWEY, DR. GEORGE W., educator, psychiatrist, criminologist, 86, March 3.
- KIYOURA, COUNT KEIGO, former Premier of Japan, 92, Nov. 6.
- KNABENSHUE, PAUL, U. S. Minister to Iraq, 58, Feb. 1.
- KNOTTS, HOWARD C., aeronautical law authority and flying ace, 47, Nov. 23.
- KOLBE, DR. PARKE REXFORD, president

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- of Drexel Institute of Technology, 60, Feb. 28.
- KOMROFF, MRS. ELINOR M. BARNARD, artist, 70, Feb. 16.
- KONITZA, FALK, former Albanian Minister to U. S., 74, Dec. 15.
- KRIKORIAN, REV. H. K., Armenian clergyman and educator, 97, Dec. 14.
- LAMB, CHARLES ROLLINSON, architect, 82, Feb. 22.
- LAMB, THOMAS WHITE, architect, 71, Feb. 26.
- LAMBERT, DR. SAMUEL W., physician and educator, 82, Feb. 9.
- LARKIN, ADRIAN H., lawyer and philanthropist, 76, Feb. 23.
- LEDOCHOWSKI, VERY REV. VLADIMIR, Father General of the Society of Jesus (Jesuits), 76, Dec. 13.
- LEEUEW, ADOLPH L. DE, Dutch-born engineer and inventor, 81, Dec. 5.
- LEJUNE, LIEUT. GEN. JOHN A., former commandant of U. S. Marine Corps, 75, Nov. 20.
- LEME DA SILVEIRA CINTRA, Cardinal, Brazilian prelate, 60, Oct. 17.
- LENT, REV. DR. FREDERICK, former president of Elmira College, 70, Dec. 30.
- LEVI-CIVITA, TULLIO, Italian mathematician, 69, Jan. 1.
- LIEUTHENY-THOMSEN, GEN. HERMANN VON DER, German soldier, 75, Aug. 8.
- LILLIE, MAJOR GORDON W. (Pawnee Bill), frontiersman and showman, 82, Feb. 3.
- LITTLE, MAJOR PHILIP, marine artist, 84, March 31.
- LOCH, LORD, British soldier, 69, Aug. 14.
- LOCKE, DR. MAHLON W., Canadian manipulative surgeon, 61, Feb. 7.
- LOCKE, BRIG. GEN. MORRIS E., 65, July 3.
- LODGE, PROF. GONSALEZ, Latin scholar, 79, Dec. 23.
- LOGAN, WARREN, Negro educator, 86, April 26.
- LOMBARD, CAROLE, film actress, 32, Jan. 17.
- LONGAN, GEORGE B., newspaper publisher, 63, Oct. 16.
- LOOMIS, ORLAND S., Governor-elect of Wisconsin, 49, Dec. 7.
- LORD, BRIG. GEN. W. A., 72, Dec. 1.
- LOWENSTEIN, DR. SOLOMON, social worker, 64, Jan. 20.
- LUETTITZ, GEN. WALTHER VON, German commander in First World War, 84, Sept. 22.
- LUMBARD, DR. JOSEPH E., anesthetist, 77, Oct. 27.
- LUNN, WILLIAM, British Labor leader, 70, May 17.
- LUPINO, STANLEY, English comedian, 48, June 10.
- LUTES, DELLA THOMPSON, author, July 13.
- LYON, BRIG. GEN. ALFRED J., Air Corps commander, 50, Dec. 1.
- MACAULAY, THOMAS BASSETT, Canadian insurance leader, 81, April 3.
- MACDONALD, MRS. EWAN (L. M. Montgomery), Canadian novelist, 67, April 24.
- MACDONALD, PIRIE, photographer, 75, April 22.
- MACDONALD, ROBERT, Canadian architect, 67, Dec. 16.
- MACDONOGH, LIEUT. GEN. SIR GEORGE M. W., former British military intelligence director, 77, July 10.
- MACSWINEY, MARY, Irish Republican leader, March 7.
- MADRID, FRANCISCO S., Colombian statesman, 53, May 21.
- MAGOFFIN, PROF. RALPH V. D., archaeologist, 67, May 15.
- MAIN, JOHN F., Washington (State), jurist, 78, Oct. 13.
- MALBRAN, MANUEL E., Argentine Ambassador to Italy, 66, Nov. 12.
- MALINOWSKI, BRONISLAW K., Polish anthropologist, 58, May 16.
- MANCROFT, LORD (SIR ARTHUR M. SAMUEL), statesman and author, 69, Aug. 17.
- MARGUERITE, VICTOR, French novelist, 72, March 23.
- MARIE-ANNE, Dowager Grand Duchess of Luxembourg, 81, July 31.
- MARK, LOUIS, portrait artist, 75, March 18.
- MARKS, DR. HENRY K., author and neurologist, 57, Sept. 1.
- MARSHALL, THOMAS C., Salvation Army pioneer and hymn writer, 88, Oct. 7.
- MARTIN, PROF. P. A., educator and Latin-American authority, 63, March 8.
- MARTIN, VERY REV. THOMAS, former

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- Moderator of the Church of Scotland, 85, Jan. 9.
- MARTIN, BRIG. GEN. WILLIAM F., 79, April 15.
- MASTEN, CORNELIUS A., Canadian jurist, 84, Aug. 31.
- MATHESON, MOST REV. SAMUEL P., Canadian prelate, 89, May 19.
- MAURER, DR. IRVING, president of Beloit College, 62, Feb. 28.
- MCANDREWS, JAMES A., former Congressman (Ill.), 77, Aug. 31.
- McAULIFFE, JOSEPH J., newspaper editor, 65, July 9.
- McCARTER, HENRY, artist and illustrator, 76, Nov. 20.
- McCLINTIC, GEORGE W., Federal jurist (W. Va.), 76, Sept. 25.
- McCLURE, BRIG. GEN. NATHANIEL F., 76, June 26.
- McDONAGH, DR. ANDREW J., Canadian dental surgeon, 74, Feb. 10.
- MCDONALD, JESSE F., former Governor of Colorado, 83, Feb. 25.
- McGOVERN, ARTHUR A., physical instructor, 50, Nov. 1.
- McINTOSH, BURR, poet, actor, lecturer, 79, April 28.
- McMAHON, CHARLES A., editor of *Catholic Action*, 63, Nov. 8.
- McNAMEE, GRAHAM, radio commentator, 53, May 9.
- MEANES, DR. LENNA L., specialist in health education, 71, Dec. 4.
- MERRELL, EDGAR S. K., New York State jurist, 77, Dec. 5.
- MERRIAM, DR. C. HART, naturalist, 86, March 19.
- METCALF, JESSE F., former U. S. Senator (R. I.), 81, Oct. 9.
- MIDDLETON, FIRST EARL OF, British statesman, 85, Feb. 13.
- MIERS, SIR HENRY, English geologist, 84, Dec. 11.
- MIFSUD, SIR UGO PASQUALE, former Prime Minister of Malta, 52, Feb. 12.
- MIKELL, RIGHT REV. HENRY J., Episcopal Bishop of Atlanta, 68, Feb. 20.
- MILLARD, THOMAS F. F., author and war correspondent, 74, Sept. 8.
- MILLER, ALICE DUER, author, 68, Aug. 23.
- MILLS, JAMES A., newspaper correspondent, 58, March 27.
- MOFFITT, JOHN A., labor conciliator, 76, June 6.
- MONAGHAN, MOST REV. FRANCIS J., R. C. Bishop of Ogdensburg, N. Y., 52, Nov. 13.
- MONROE, ANNE SHANNON, author, 68, Oct. 18.
- MONTAGNE, AUGUSTUS A., first American judge in the Philippine Islands, 80, June 26.
- MOONEY, THOMAS J., socialist and labor agitator, 60, March 6.
- MOORE, DR. ROBERT W., professor of German Language and Literature, 79, Nov. 21.
- MOREHEAD, JOHN H., former Governor of Nebraska, 80, May 31.
- MORI, CESARE, Italian prefect, destroyer of Mafia (Blackhand), July 5.
- MORRIS, IRA NELSON, diplomat and author, 66, Jan. 15.
- MORRISON, AULAY, Canadian jurist, 78, Feb. 27.
- MOSCHOWITZ, PAUL, portrait painter, 66, Jan. 4.
- MOTON, MRS. JENNIE BOOTH, widow of Dr. Robert R. Moton and Negro leader, 62, Dec. 23.
- MOWER, CHARLES D., yacht designer, 66, Jan. 17.
- MURDOCK, GEORGE J., inventor and electrical pioneer, 84, July 25.
- MURPHY, WALTER P., railroad equipment manufacturer and philanthropist, 69, Dec. 16.
- MURRAY, WILLIAM SPENCER, engineer, 68, Jan. 9.
- MYERS, GUSTAVUS, historian, 70, Dec. 7.
- NAST, CONDÉ, magazine publisher, 68, Sept. 19.
- NAYLOR, BRIG. GEN. WILLIAM K., soldier and strategist, 68, Aug. 3.
- NEAL, SIR PHENE, former Lord Mayor of London, 81, July 7.
- NESTEROV, MIKHAEI, Russian painter, 80, Oct. 20.
- NESTOS, RAGNVALD A., former governor of North Dakota, 65, July 15.
- NEWBERRY, FANNIE STONE, novelist, 93, Jan. 24.
- NICHOLS, HUGH L., former chief Justice of Ohio Supreme Court, 77, Dec. 29.
- NIKOLAJEFF, GENERAL DANAIL, Bul-



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- garian soldier and official, 90, Aug. 29.
- NOBLE, DR. MARCUS C. S., educator, 87, June 1.
- NORDSTROM, LUDVIG, Swedish author, 60, April 15.
- NORTON, ROY E., author, explorer, engineer, 72, June 28.
- OCKER, COL. WILLIAM C., "father of blind flying," 66, Sept. 15.
- ODOM, WILLIAM M., art educator and author, 57, Jan. 29.
- O'FLANAGAN, REV. MICHAEL, Irish scholar and Sinn Fein leader, 66, Aug. 7.
- OLIVER, EDNA MAY, actress, 59, Nov. 9.
- OLIVER, SIR THOMAS, British authority on industrial diseases, 89, May 15.
- ORTIZ, ROBERTO M., former President of Brazil, 55, July 15.
- OSORIO, MIGUEL ANGEL, Colombian poet, 65, Jan. 14.
- OTTIANO, RAFAELA, actress, 54, Aug. 15.
- PACKARD, FRANK L., author, 65, Feb. 17.
- PADELFORD, DR. FREDERICK M., educator, 67, Dec. 3.
- PALEOLOGUE, PRINCE JEAN, Rumanian-born artist, 82, Nov. 24.
- PALMER, EFFIE, radio actress, Aug. 19.
- PARENT, GEORGE, Speaker of the Canadian Senate, 62, Dec. 14.
- PARKER, MAJOR ALTON N., airplane pilot in Byrd Expeditions, 47, Nov. 30.
- PARKER, BRIG. GEN. JOHN H., machine gun expert, 76, Oct. 13.
- PARSEVAL, MAJOR AUGUST VON, German pioneer dirigible builder, 81, Feb. 23.
- PATON, DR. STEWART, pioneer psychiatrist, 76, Jan. 7.
- PATRICK, MAJOR GEN. MASON M., former Chief of Army Air Service, 78, Jan. 29.
- PATTANGALL, WILLIAM R., Maine jurist, 77, Oct. 21.
- PAVOLINI, DR. PAOLO EMILIO, Italian philologist, 78, Sept. 15.
- PEELE, PROF. ROBERT, mining engineer and educator, 84, Dec. 8.
- PENDLETON, MAJOR GEN. JOSEPH HENRY, Marine Corps officer, 81, Feb. 4.
- PENTUFF, DR. JAMES R., educator, Nov. 30.
- PERCY, WILLIAM ALEXANDER, lawyer and poet, 56, Jan. 21.
- PERLOVSKY, VICTOR, Russian submarine designer, 43, Dec. 2.
- PERRIN, PROF. JEAN, French physicist, 71, April 17.
- PESSOA, DR. EPITACIO DA SILVA, former President of Brazil, 76, Feb. 13.
- PETER, DR. LUTHER C., ophthalmologist, 73, Nov. 12.
- PETERSON, DR. REUBEN, physician, gynecologist, 80, Nov. 25.
- PETRIE, SIR W. M. FLINDERS, British archaeologist, 89, July 28.
- PFANSTIEHL, CARL, inventor and engineer, 54, March 1.
- PHILLIPS, DR. ARTHUR M., psychiatrist, 64, Dec. 16.
- PHILLIPS, REV. THEODORE E. R., British astronomer, 74, May 13.
- PHILLIPS, REV. ZE BARNEY T., Chaplain of U. S. Senate, 67, May 10.
- PIENAAR, MAJOR GEN. DANIEL H., South Africa soldier, 49, Dec. —.
- PINE, WILLIAM B., former U. S. Senator (Oklahoma), 64, Aug. 25.
- PINTNER, DR. RUDOLF, educator, 57, Nov. 7.
- PLANTENGA, DR. JAN H., Dutch engineer and author, 51, Nov. 25.
- POLITIS, NICHOLAS SOCRATE, Greek statesman and diplomat, 70, March 4.
- POLLACK, ALLAN, British actor, Jan. 18.
- POPE-HENNESSY, MAJOR GEN. L. H. R., British military officer and writer, 66, March 3.
- PORRAS, DR. BELISARIO, former President of Panama, 85, Aug. 28.
- PORTER, CHARLOTTE E., Shakespeare and Browning scholar, Jan. 16.
- PORTER, REV. F. G., Methodist clergyman and historian, 85, Dec. 16.
- PORTERFIELD, REAR ADMIRAL LEWIS B., 62, April 5.
- POSPISIL, DR. VILEM, Czech financier, 69, Dec. 1.
- POULSEN, VALDEMAR, Danish inventor, 73, Aug. 6.
- POWLISON, CHARLES F., founder National Child Welfare Association, 77, July 1.
- PRATT, DR. NATHANIEL P., chemical engineer and educator, 84, Nov. 15.
- PROSSER, SEWARD, banker and philanthropist, 71, Oct. 1.

## NECROLOGY FOR 1942

- PRYOR, ARTHUR, bandmaster and composer, 71, June 18.  
 RADASCH, PROF. H. E., histologist and embryologist, 68, Nov. 29.  
 RAMEAU, JEAN, French poet and novelist, 84, Feb. 24.  
 RANSON, DR. STEPHEN W., neurologist, 62, Aug. 30.  
 RAVEN-HILL, LEONARD, British cartoonist, 75, March 31.  
 REAGAN, BRIG. GEN. LAWRENCE V., National Guard officer, 51, Jan. 31.  
 REASER, WILLBUR A., portrait painter, 81, Dec. 9.  
 REDWAY, DR. JACQUES W., geographer and meteorologist, 94, Nov. 6.  
 REES, BRIG. GEN. THOMAS H., military engineer, 78, Sept. 20.  
 REEVES, PROF. JESSE S., educator and international law authority, 70, July 7.  
 REISNER, DR. GEORGE A., Egyptologist, 74, June 7.  
 RELANDER, DR. LAURI KRISTIAN, former President of Finland, 59, Feb. 9.  
 RHODES, EDGAR NELSON, Canadian statesman and legislator, 66, March 15.  
 RHYNE, DR. HUGH J., Lutheran clergyman and educator, 41, Nov. 13.  
 RICE, MRS. ALICE HEGAN, author, 72, Feb. 10.  
 RICHARD, CHARLES, VICE ADMIRAL, French naval commander, 61, Sept. 21.  
 RICHTER, DR. GEORGE M., authority on Renaissance art, 67, June 9.  
 RITCHIE, DR. HARRY P., surgeon and educator, 69, Sept. 3.  
 RITCHIE, ROBERT W., journalist and author, 64, Aug. 2.  
 RITTER, VERUS T., architect, 59, Oct. 6.  
 ROBB, E. DONALD, architect, 62, July 8.  
 ROBERTS, SR., FRANK C., civil engineer, 81, Nov. 30.  
 ROBINSON, REV. BUD, evangelist, 82, Nov. 2.  
 ROBSON, MAY, actress of stage and screen, 84, Oct. 20.  
 ROCA, JOLIO A., former Vice President of Argentina, 69, Oct. 8.  
 ROSS, SIR CHARLES, Scottish-Canadian inventor, 70, June 28.  
 ROSS, FRED G., actor and manager, 84, Aug. 18.  
 ROTHSCHILD, BARON ALPHONSE DE, financier, 64, Sept. 1.  
 ROWE, RIGHT REV. PETER TRIMBLE, Episcopal bishop in Alaska, 85, June 1.  
 ROYLE, EDWIN MILTON, playwright, 79, Feb. 16.  
 RUCKSTULL, FREDERICK W., sculptor, 89, May 26.  
 RUGH, DR. JAMES T., orthopedic surgeon and educator, 75, Oct. 12.  
 SALES, COUNT RAOUL DE ROUSSY DE, French journalist, 46, Dec. 3.  
 SALTZMAN, MAJOR GEN. CHARLES MCK., former Chief Signal Officer, U. S. A., 71, Nov. 25.  
 SALVESEN, LORD, Scottish jurist, 84, Feb. 23.  
 SANBORN, RUTH BURE, novelist, 47, June 29.  
 SARG, TONY, artist and puppeteer, 59, March 7.  
 SAUER, EMIL VON, German pianist, 79, April 29.  
 SAYDAM, DR. REFIK, Premier of Turkey, 61, July 7.  
 SAYLES, PROF. ROBERT W., geologist, 64, Oct. 23.  
 SCHNEIDER, ARTHUR E., artist, 76, Feb. 7.  
 SCHOELLKOPF, ALFRED H., public utility leader, 49, Sept. 9.  
 SCHOELLKOPF, SR., JACOB F., dye pioneer and utility leader, 84, Sept. 9.  
 SCHOEN-RENÉ, ANNA EUGENIE, singer and teacher, 78, Nov. 13.  
 SCHOFIELD, REAR ADMIRAL FRANK H., 73, Feb. 20.  
 SCHORR, ANSHEL, Yiddish playwright, 70, May 31.  
 SCHUCHERT, DR. CHARLES, paleontologist, 84, Nov. 20.  
 SCHURMAN, JACOB GOULD, diplomat and educator, 88, Aug. 12.  
 SCOTT, HENRI G., operatic basso, 65, April 2.  
 SCOTT, REAR ADMIRAL NORMAN, 53, Nov. 13.  
 SEARS, HERBERT M., yachtsman, 74, Feb. 19.  
 SEIGNOBOS, CHARLES, French historian and educator, 87, April 29.  
 SELBORNE, EARL OF, British official, 82, Feb. 26.

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- SELLERS, DR. MONTGOMERY P., rhetorician and educator, 69, Dec. 5.
- SELTZER, CHARLES ALDEN, author, 66, Feb. 9.
- SENIOR, FRANK SEARS, civil engineer 66, Nov. 29.
- SHEPARD, FINLEY J., railroad executive and financier, 74, Aug. 22.
- SHIPLEY, WALTER PENN, chess expert, 81, Feb. 17.
- SHIRAS, GEORGE, naturalist, 83, March 24.
- SHOEMAKER, DR. WILLIAM T., ophthalmologist, 73, Nov. 26.
- SICKERT, WALTER RICHARD, British artist, 81, Jan. 23.
- SIDI AHMED II, Bey of Tunis, 80, June 19.
- SIEBERN, EMIL, sculptor, 53, June 14.
- SIEBERT, LUDWIG, Bavarian Premier and president of the German Academy, 68, Oct. 31.
- SIHLER, PROF. ERNEST G., educator and author, 89, Jan. 7.
- SILES, HERNANDO, former President of Bolivia, 60, Nov. 23.
- SIMON, T. FRANTISEK, Czech painter and etcher, 65, Dec. 19.
- SIMOPOULOS, CHAROLAMBOS, Greek Ambassador in London, 68, Oct. 24.
- SIMPSON, CHARLES W., Canadian artist, 65, Sept. 16.
- SKINNER, OTIS, actor, 83, Jan. 4.
- SLAGLE, MRS. ELEANOR CLARKE, pioneer in occupational therapy, 66, Sept. 18.
- SMEDBERG, BRIG. GEN. W. R., 71, Oct. 9.
- SMITH, ALBERT W., educator and author, 86, Aug. 16.
- SMITH, REAR ADMIRAL ARTHUR ST. CLAIR, 68, March 26.
- SMITH, ELEANOR, co-worker with Jane Addams at Hull House, 84, June 30.
- SMITH, ERNEST BRAMAH, English writer, 74, June 26.
- SMITH, VERY REV. SIR GEORGE ADAM, British educator and Bible authority, 85, March 3.
- SNOOK, H. CLYDE, inventor of X-ray transformer, 64, Sept. 22.
- SOLOMON, MRS. HANNAH G., founder of National Council of Jewish Women, 84, Dec. 7.
- SPAULDING, ROLLAND H., former Governor of New Hampshire, 69, March 14.
- SPEAIGHT, FREDERICK W., British architect, 73, Nov. 15.
- SPENDER, J. ALFRED, English author, 80, June 21.
- SPURGEON, DR. CAROLINE F. E., English scholar and educator, 74, Oct. 24.
- STAMP, ERNEST, British portrait mezzotint artist, 73, Dec. 24.
- STAUB, DR. HUGO, German psychotherapist and psychoanalyst, 56, Oct. 29.
- STAUNING, THORVALD, Premier of Denmark, 68, May 3.
- STEER, P. WILSON, British artist, 82, March 21.
- STEVENS, RAYMOND B., chairman, U. S. Tariff Commission, 68, May 18.
- STEVENS, THOMAS WOOD, arts educator, 62, Jan. 29.
- STEWART, JAMES C., engineer, 81, Jan. 17.
- STOCK, DR. FREDERICK A., orchestra leader, 69, Oct. 20.
- STOKES, EDWARD C., former Governor of New Jersey, 81, Nov. 4.
- STRAUSS, SIEGMUND, Austrian inventor, 67, March 29.
- STRONG, DR. WENDELL M., insurance actuary and executive, 71, March 30.
- STUDLEY, ELMER E., former Congressman (N. Y.), 72, Sept. 6.
- STURGIS, JULIE, tapestry designer, July 3.
- STURTEVANT, DR. SARAH M., educator, 61, Dec. 18.
- SULLIVAN, CHRISTOPHER D., former head of Tammany Hall, 72, Aug. 3.
- SUTHERLAND, ANNE, actress, 75, June 23.
- SUTHERLAND, GEORGE, retired Associate Justice of U. S. Supreme Court, 80, July 18.
- SWEET, WILLIAM A., former Governor of Colorado, 73, May 9.
- SYKES, CHARLES H. (BILL), cartoonist, 60, Dec. 19.
- SYKES, DR. RICHARD EDDY, educator, 81, Oct. 2.
- TALBOT, DR. ARTHUR N., engineer, 84, April 3.
- TALLEY, TRUMAN H., film producer, 50, Jan. 18.

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- TARNOWSKY, DR. GEORGE DE, surgeon, 68, Jan. 20.
- TAVENNER, CLYDE H., journalist and former Congressman (Ill.), 60, Feb. 7.
- TAYLOR, CHARLES A., playwright, 78, March 20.
- TAYLOR, REV. DR. GEORGE BRAXTON, Baptist clergyman, 81, March 9.
- TAYLOR, GRAHAM R., editor and civic worker, 62, Aug. 30.
- TEMPEST, MARIE, British actress, 78, Oct. 15.
- TERHUNE, ALBERT PAYSON, author, 69, Feb. 18.
- TERRA, DR. GABRIEL, former President of Uruguay, 69, Sept. 15.
- THOMPSON, CARMI A., former U. S. Treasurer, 71, June 22.
- THOMPSON, MILTON THEODORE, civil and electrical engineer, 72, Aug. 9.
- THOMPSON, ULDRICK, Hawaiian educator, 93, June 23.
- THORNHILL, DAVID C., Pinkerton detective, 80, Dec. 16.
- TILLMAN, BRIG. GEN. SAMUEL E., 94, June 24.
- TINKER, MAJOR GEN. CLARENCE L., commander of U. S. Seventh Air Force, June 7.
- TINLOT, GUSTAVE, violinist and concertmaster, 55, March 2.
- TOCA, JOAQUIN SANCHEZ, former Premier of Spain, 89.
- TOMLINSON, GEORGE A., railroad executive, 76, Jan. 24.
- TORREY, GEORGE BURROUGHS, portrait painter, 79, April 14.
- TOWNSEND, EDWARD W., author and journalist, 87, March 16.
- TRENCHARD, THOMAS W., New Jersey jurist, 78, July 23.
- TROY, JOHN W., former Governor of Alaska, 73, May 2.
- TSAHAI, PRINCESS, daughter of the Emperor of Ethiopia, 22, Aug. 17.
- TURNBULL, MARGARET, novelist and playwright, June 12.
- TURNER, SIR BEN, British labor leader, 79, Sept. 30.
- UNDERWOOD, FREDERICK D., railroad executive, 93, Feb. 18.
- UPSHAW, MRS. IDA T., domestic relations pioneer, 83, July 25.
- URIBE, DR. ANTONIO JOSÉ, Colombian statesman, diplomat, lawyer, 69, March 8.
- VANBRUGH, VIOLET, English actress, 75, Nov. 10.
- VANDERBILT, BRIG. GEN. CORNELIUS, financier and engineer, 68, March 1.
- VAUGHAN, LIEUT. GEN. SIR LOUIS R., British soldier, 67, Dec. 7.
- VEEDER, VAN VECHTEN, former Federal jurist, 75, Dec. 4.
- VERGEZ, GEN. BERNARD, French soldier, 61, Oct. 6.
- VEZIN, CHARLES, artist, 53, March 13.
- VINSONHALER, DR. FRANK, physician and educator, 78, Sept. 1.
- VISSER, DR. L. E., Dutch jurist, 71, Feb. 24.
- VIVANTI, ANNIE, Anglo-Italian author, 74, Feb. 25.
- VREELAND, DR. WILLIAMSON U., educator, 72, Nov. 6.
- WALKER, DR. JOHN B., surgeon, 82, April 13.
- WALSH, DR. JAMES J., Catholic authority and author, Feb. 28.
- WARREN, PROF. JOSEPH, educator and lawyer, 66, Sept. 19.
- WATSON, DR. JOHN B., Negro educator, 72, Dec. 6.
- WATSON, SIR JOHN M., British philanthropist, 72, Feb. 14.
- WAYBURN, NED, dance director, 68, Sept. 2.
- WEBB, F. EGERTON, banker, 83, Feb. 26.
- WEBER, JOSEPH M. (JOE), comedian, 74, May 10.
- WEINGARTNER, FELIX, conductor and composer, 78, May 7.
- WELLMAN, FRANCIS L., lawyer and author, 87, June 7.
- WELLS, CAROLYN, author, March 26.
- WELSH, DEVITT, painter and etcher, 54, July 11.
- WESTCOTT, PROF. JOHN H., classicist and educator, 83, May 19.
- WESTLEY, HELEN, stage and screen actress, 63, Dec. 12.
- WHEATON, FRANCIS, artist and humanitarian, 93, June 23.
- WHEELER, DR. JOHN BROOKS, surgeon, 88, May 1.
- WHITE, HENRY T. E., editor and author, 89, Aug. 31.
- WHITE, JAMES GILBERT, engineer, contractor, investment banker, 80, June 2.
- WHITESIDE, WALKER, actor, 73, Aug. 17.



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- WHITING, LILIAN, author, 82, April 30.
- WHITNEY, GERTRUDE VANDERBILT, sculptress and philanthropist, 64, April 18.
- WHITTEN, WILFRED (JOHN O'LONDON), British author and journalist, 78, Dec. 22.
- WILCOX, ELIAS B., former Federal judge (Puerto Rico), 73, Oct. 27.
- WILLARD, DANIEL, railroad executive (B. & O.), 81, July 6.
- WILLARD, JOHN, novelist and playwright, 57, Aug. 31.
- WILLEY, REV. DR. JOHN H., Methodist clergyman, 88, Nov. 8.
- WILLIAMS, CAPT. PHILIP, former Governor of Virgin Islands, 73, Oct. 31.
- WILLIAMS-BULKELEY, SIR RICHARD, Welsh landowner, 79, July 7.
- WILLSON, LIEUT. COL. BECKLES, Canadian author, 73, Sept. 18.
- WILLSTAETTER, DR. RICHARD, German chemist, 70, Aug. 3.
- WILSON, FORREST, author, 59, May 9.
- WILSON, DR. JOHN A., chemist, 52, Sept. 10.
- WILSON, SCOTT, State (Me.) and Federal jurist, 72, Oct. 22.
- WINDHAM, SIR WALTER G., founder of British airmail service, 73, July 6.
- WOOD, ARNOLD, publisher and philanthropist, 69, June 21.
- WOOD, GRANT, artist, 49, Feb. 12.
- WOODARD, STACY, film photographer and producer, 39, Jan. 27.
- WOODWARD, CHARLES E., Federal jurist (Ill.), 65, May 15.
- WORK, DR. HUBERT, former Postmaster General and Secretary of the Interior, 82, Dec. 14.
- YOUNGER, EDWARD F., selector of the Unknown Soldier, 44, Aug. 6.
- YOUNGHUSBAND, SIR FRANCIS E., English explorer, 79, July 31.
- ZEIGEN, FREDERICK H., author, financier, traveler, 68, May 26.
- ZEMLINSKY, ALEXANDER VON, Austrian composer and conductor, 69, March 16.
- ZWEIG, STEFAN, Austrian author, 60, Feb. 23.

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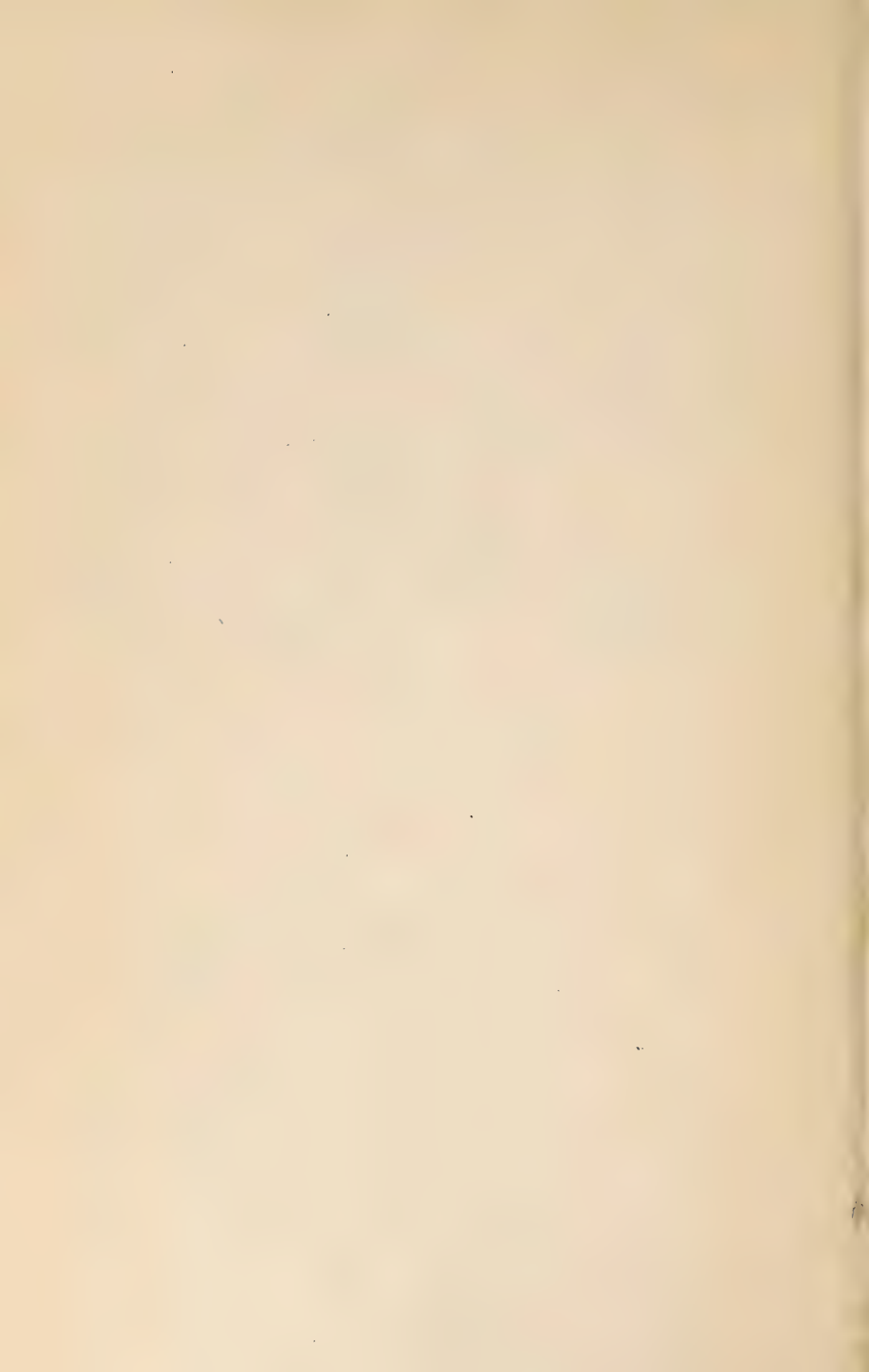


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